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CHINA'S MARITIME SILK ROAD TO OIL: PROSPECTS FOR CHINESE INFLUENCE IN THE MIDDLE EAST THROUGH NAVAL MODERNIZATION

by

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June 2005

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ABSTRACT

This thesis explores the prospect of a PRC naval role in the Persian Gulf by 2025 and its implications for the United States Navy, focusing in particular on Beijing's evolving relationship with Iran. Since the last years of the Cold War, China's relationships with the United States and Russia have improved significantly, and China no longer sees these former adversaries as imminent threats. As a result, the People's Liberation Army (PLA) has shifted its strategy from a defensive posture to a forward-looking one. Concurrently, economic developments and progress have raised China's aspirations to become the new regional power in Asia. As such, the PRC's economic sustainability will depend greatly on imported oil. The Persian Gulf will be a strategic focus for China in the near future.

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LIST OF ACRONYMS AND ABBREVIATIONS

BBL/D	Barrels Per Day
BRAC	Base Realignment and Closure
DOE	(U.S.) Department of Energy
EEZ	Exclusive Economic Zone
EU	European Union
GDP	Gross Domestic Product
IAEA	IAEA
ILSA	Iran-Libya Sanctions Act
LCAC	Landing Craft Air Cushion
LHA	Amphibious Attack Ship
LNG	Liquefied Natural Gas
LPD	Amphibious Transport Dock
LSD	Dock Landing Ship
MiG	Mikoyan & Gurevich (Russian aircraft designers)
NORINCO	North China Industries Corporation
PAP	People's Armed Police
PLA	People's Liberation Army
PLAAF	People's Liberation Army-Air Force
PLAN	People's Liberation Army-Navy
PRC	People's Republic of China
QDR	Quadrennial Defense Review
ROC	Republic of China
SLOC	Sea Lanes of Communications
SWO	Surface Warfare Officer
TCF	Trillion Cubic Feet
UAE	United Arab Emirates
UN	United Nations
USD	United States Dollar
USN	United States Navy
USMC	United States Marine Corp
VSTOL	Vertical Short Take-Off and Landing

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I. INTRODUCTION

> On September 23rd [2002], two Chinese Navy ships, the guided missile destroyer Qingdao and a support vessel were greeted by a cheering crowd. … The small flotilla visited eight countries on five continents. The route of its 132-day voyage included the Arabian Sea…[1]
>
> --AME Info, Jan 16, 2003

A. THESIS QUESTION - STRATEGIC "INSECURITY"

The United States Navy has been providing security and stability -- freedom of navigation, combating piracy, and answering distress calls -- in the Persian Gulf for decades, so why would China want to take on the same role, possibly draining its own resources? A simple answer is that China sees the U.S. as a threat in the event of conflict, especially over Taiwan.

The United States has traditionally incorporated use of naval power, such as blockades, during a war. There are countless examples dating from the American Revolution to today's war on terrorism in which the United States Navy denied its opponent resources via the open seas. In peacetime, the U.S. has used its naval power to enforce restrictions, as it did with Iraqi oil sales in the 1990s after invading Kuwait. Restricting important resources such as oil may eventually lead to war, however. For instance, many historians believe Japan's attack on Pearl Harbor during World War II was a result of the U.S. boycott on sales of oil and scrap metals to Japan. China may simply want to protect its national and economic interests by avoiding such pitfalls.

This thesis will argue that the People's Republic of China (PRC) will not attain sufficient naval modernization in the next 20 years to pose a major threat for the US Navy. Furthermore, although China wants to limit the United States' "hegemony" in the Middle East, it desires stability and security in the Persian Gulf, via the U.S. Navy, which is critical to its economic stability. This thesis analyzes the possibility of Chinese naval influence in the Persian Gulf by 2025 (due to China's increasing appetite for oil) and the resulting implications for the United States Navy.

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[1] "China Turns to the Gulf." AME Info FN, January 16, 2003. From Hwww.ameinfo.com/16699.htmlH [Last accessed June 11, 2005]

1. Don't Want to be Poor Again

Sustained growth in the PRC's economy will depend on China's ability to transport resources and conduct trade using the open sea; therefore, protection of sea lanes of communications (SLOC) will be vitally important. Chinese economic success during the last two decades has created an increasing demand for raw materials and oil. The export of manufacturing goods rose by about 15 percent annually from the 1990s to 2000, to $220 billion dollars.[2]

One of the main reasons why China's economy boomed was the abundance of cheap labor for manufacturing and the economic reforms undertaken by Deng Xiaoping and his successors. The demand for oil and natural gas to feed a strong economy is unlikely to slow down anytime soon. The industrial revolution in the West created demand for materials such as rubber, steel, and oil in the late 19th century. The same type of demand can be expected as more than a billion Chinese will desire automobiles, modern housing, and manufactured goods like the West.

2. Oil

The Persian Gulf has vast amounts of proven oil reserves, and it is a region critical to the world's energy supply for everything from factories to automobiles. The U.S. Department of Energy published these facts about the Persian Gulf:

> In 2003, the Persian Gulf countries (Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates) produced about 27% of the world's oil, while holding 57% (715 billion barrels) of the world's crude oil reserves. OECD gross oil imports from Persian Gulf countries averaged about 11.6 million barrels per day (bbl/d) during 2003, accounting for 46% of the OECD's total net oil imports. Besides oil, the Persian Gulf region also has huge reserves (2,462 trillion cubic feet -- Tcf) of natural gas, accounting for 45% of total proven world gas reserves.[3]

The Straits of Hormuz is the only entrance and exit for ships to and from the Persian Gulf. The U.S. Department of Energy estimates 90 percent of oil exports from the Gulf transits thorough the Straits of Hormuz (consisting of 2-mile-wide channels for

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[2] "Will China Take Over World Manufacturing?" *The International Economy*, Winter 2003. p. 72.

[3] Energy Information Administration, "Country Analysis Brief, Persian Gulf Oil and Gas Fact Sheet," September 2004. From Hwww.eia.doe.govH [Last accessed June 11, 2005]

traffic and a 2-mile-wide buffer zone), located between Oman and Iran. [4] This main artery for oil accounts for two-fifths of all world-traded oil.[5]

B. SCOPE OF THESIS

The Persian Gulf borders several countries, including Saudi Arabia, the United Arab Emirates (UAE), Iran, Qatar, Iraq, Kuwait, and Bahrain. [6] The biggest oil exporters are Saudi Arabia, followed by Iran (see Figure 1).[7] Six out of seven countries have diplomatic ties with the United States, and many host U.S. military bases. Also Saudi Arabia, Kuwait, Bahrain, the UAE, Qatar, and Oman are members of the Gulf Cooperation Council, which promotes free trade and regional defense.

With the exception of Iran, all these countries have significant economic ties with the United States. For example, according to the U.S. State Department, the United States is Saudi Arabia's largest trading partner, and Saudi Arabia is the U.S.'s largest export market in the Middle East.[8] For this reason, this thesis will assume that normal relations will continue between these countries, leaving Iran as the country that can grant China access to a foothold in the Persian Gulf.

This thesis limits its scope only to Iranian-Chinese relations. Normalization of relationships between Iran and the United States seem bleak for several reasons. According to the State Department, there are at least four objectionable behaviors that are keeping the countries on chilly footing. The problem areas are:[9]

- Iranian efforts to acquire nuclear weapons and other weapons of mass destruction;
- Its support for and involvement in international terrorism;
- Its support for violent opposition to the Middle East peace process; and
- Its dismal human rights record.

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[4] See Appendix I, "Map of Persian Gulf." From Hwww.lib.utexas.edu/maps/middle_east_and_asia/arab_pennisula.gifH [Last accessed June 11, 2005]

[5] Energy Information Administration, "Country Analysis Brief, Persian Gulf Oil and Gas Fact Sheet," September 2004. From Hwww.eia.doe.govH [Last accessed June 11, 2005]

[6] Appendix I, "Map of Persian Gulf." From Hwww.lib.utexas.edu/maps/middle_east_and_asia/arab_pennisula.gifH [Last accessed June 11, 2005]

[7] See Figure 1 Persian Gulf Exports by Country—2003.

[8] U.S. Department of State. From Hhttp://www.state.gov/countries/H [Last accessed June 11, 2005]

[9] U.S. Department of State. From Hhttp://www.state.gov/countries/H [Last accessed June 11, 2005]

Drastic political changes can conceivably happen in a few short years. There have been many regime changes and changes of allegiance in the last twenty years. But relations with some countries have not changed much for decades -- consider North Korea and Cuba. If the current Iranian regime holds onto power, we can assume the country will be used as a beachhead by the PRC and its navy to enter the Persian Gulf. China and Iran currently have a strong political relationship and they will likely continue to develop ties in the future.

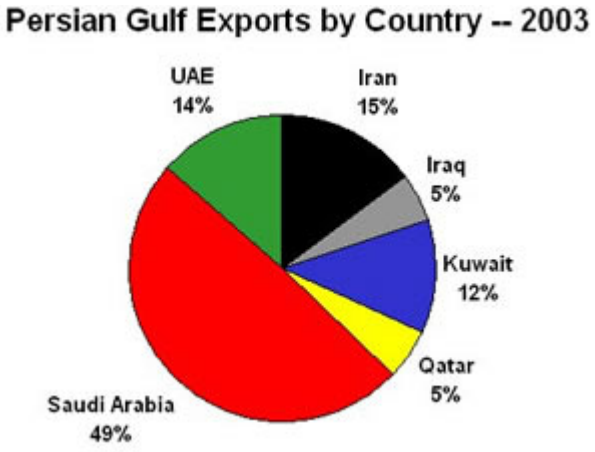

Figure 1. Persian Gulf Exports by Country - 2003

C. RELEVANCE OF TOPIC

The global war on terrorism, record-high oil prices, Iranian nuclear proliferation, and China's economy are some of the major headlines the world media are covering today. These topics will be important for the U.S. military and its strategic considerations in the Middle East and the Pacific. The U.S. Defense Department and Congress have been trying to reshape the military since the end of the Cold War and the exit of the Soviet Union as the No. 1 potential enemy. Quadrennial Defense Review (QDR) and Base Realignment and Closure (BRAC) are some tools being used to reshape the U.S. military. This thesis offers a glimpse of what the United States Navy may be facing in the next twenty years.

D. METHODOLOGY

The basic methodology used in this thesis assesses the historical relevance of outcomes reached by countries faced with similar circumstances in modern history.

Economic factors, military trends, and international politics are used extensively to build evidence to a reach conclusion. Sources used for this thesis are mainly literature, academic writings, periodicals, government publications, and the Internet. In addition, the author's academic knowledge gained from Naval Postgraduate School and operational experience gained as a Surface Warfare Officer (SWO) in the Pacific and the Persian Gulf is applied to this thesis.

E. ORGANIZATION

Chapter I addresses the question why the PRC may want to develop a navy capable of operating in the Persian Gulf. It underlines SLOCs as a vital necessity for China's economy and contends that Iran is the most logical country China will use to gain a toehold in the region.

Chapter II examines the building of a modern navy using the Imperial Japanese Navy in the late 19th century as a model. This chapter shows that a transformation of continental power to naval power can be achieved with favorable economic circumstances and political desire. Problems that faced the Imperial Japanese Navy, such as technology, integration of tactics and doctrine, and early naval engagement, are discussed that led the People's Liberation Army Navy (PLAN) in the similar path.

Chapter III describes the People's Liberation Army from past to present. This chapter explores how China's current military culture and doctrine were developed based on its history. It addresses why its military culture considerations and international politics may hinder rapid naval modernization.

Chapter IV considers China's naval strategy in light of its current capabilities. The chapter explains why Taiwan and the South China Sea will be China's primary focus, while more distant places such as the Persian Gulf will take a back seat for some time.

Chapter V concentrates on political and military cooperation between Iran and China. It contends that Iran and China will continue their friendly relations in the future to contain U.S. hegemonic influence in the Persian Gulf. The Sino-Iranian relationship has mutual benefits with economic and strategic implications; however, the warming relations may lead to negative international consequences.

Chapter VI summarizes prospects for China's naval modernization and Chinese potential as a contender against the United States Navy in the Persian Gulf by 2025. Although this thesis argues that the PRC will not have capabilities or strong reason to oppose the U.S. Navy, dialogue and communications must be clear so as not to threaten or invoke insecurity that may lead Beijing to use force.

II. NAVY BUILDING 101

Japan succeeded in rapidly modernizing its navy from the keel up. Japan's readiness to undertake such an expensive[10] venture may be attributed to its desire to enhance its economy, military power, and international prestige. Traditional land powers[11] such as Germany and Russia also desired the same benefits, which prompted them to build capable navies of their own.[12] Each country produced differing degrees of success. The common denominator, however, was that each possessed the economic capability to accomplish such a feat. The People's Republic of China's (PRC) growing industrialization and economic prosperity may take it down a similar road of naval modernization. This chapter explores the possibility of whether a non-maritime country can successfully transform itself into a great naval power in a matter of decades. Japan's naval modernization from the Meiji period though World War II will be used to assess whether an emerging power like China can achieve rapid modernization and become a formidable naval power.

A. SETTING THE STAGE

World War II ended in Europe with the fall of Berlin, and it was only a matter of time for the remaining Axis power, Japan, to meet the same fate. This end came hastily with the atomic explosions on Hiroshima on August 6, 1945, and on Nagasaki three days later. Japan, which had no remaining allies and was no match for the "super weapon," had little choice but to surrender. The declaration of surrender was signed and formally accepted by General Douglas MacArthur and Admiral Chester W. Nimitz on September 2, 1945 on board the battleship USS *Missouri*. This setting was a fitting but ironic end to what Japan had envisioned as a glorious conglomeration of empire stretching throughout Asia.

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10 Maintaining a navy requires tremendous capital and manpower. Infrastructure like docks and shipyards require skilled workers to keep ships afloat. Logistics considerations such as food, water, and fuels are costly due to extensive preparation. Seamanship and navigation require extensive training time and education.

11 Referring to countries with little or no past maritime strategy in the past to secure or protect its national interest through a navy.

12 See Appendix A "Maritime Strategy," Moran, D.J., Naval Post Graduate School, PDF file, Class Notes, "Naval History and Maritime Strategy," p. 2.

Japan used its naval forces to implement a national strategy of expanding its interests through sea power. It also attempted to cripple the U.S. Pacific Fleet while buying time to consolidate its power before negotiating a truce with the United States. Despite the delayed advancements in the Japanese navy and its eventual defeat, Japan's naval arm played an important role in formulating and successfully contributing to its national strategy through modernization. Japan had little choice but to develop naval power to continually expand its imperial domain, but consequently it paid a great price in doing so.

B. WHY A NAVY?

Great Britain and Japan have little in common in their cultures and histories, except their geographical settings. Their island status played an important role in formulating their national strategies toward naval strength to achieve their national objectives. Ships were essential for importing and exporting goods for trade and consumption, which in turn created reasons for developing powerful navies.

Two viable reasons why Japan needed to build a navy were, first, to protect its commerce and foreign trade in the sea lanes, and second, to wage war to gain power and colonies. Imperial states conquered and colonized other countries to control resources and profit from subsequent trade. Domination of the sea meant not only protecting commercial ships and trade, but also enhancing power to engage in economic warfare against enemies. Naval historian Nicolas Tracy said, "…[A]ttack on oceanic trade was a means of economic war, which was technically possible, whereas attack on the economic resources within a state was impossible unless the territory in which they lay had already been captured."[13] Japan and Great Britain, therefore, had similar reasons for building their naval power, but monumental differences existed in time and in their capabilities during the industrial era.

Britain had been a great sea power for centuries before Japan's economic success and industrialization. Japan desired Britain's imperialist and naval power, but the country lacked the technology, experience, logistical support, and knowledge to replicate

13 Tracy, Nicolas, "Before World War I," *Attack on Maritime Trade* (1991) p. 82.

the British model. Nevertheless, with hard work, Japan managed to emulate, with great success, Britain's naval power in a short few years. Economic wealth was the one key ingredient Japan feverishly acquired during this period.

C. MODERN IMPERIAL NAVY

The industrial revolution and access to resources created the financial prosperity needed to build a large navy. This effort took enormous technical knowledge and required seasoned sailors to operate the ships and their facilities. Regardless of the costs and complexities, Japan understood the benefits of having a capable navy like Britain's during this age of colonialism. For example, transportation of goods through sea routes was far more cost-effective than by land. Also, overseas colonies were vital to a nation's prosperity.[14] Resources and profits from overseas trade kept economies healthy. Consequently, the expansion of Japan's economy and naval modernization did not go unnoticed by its neighbors.

Industrialization rocketed Japan to the status of an emerging economic and military power by the late 1890s, and it was regarded as the foremost regional power by most European counterparts and neighboring states. The Japanese Shogunate was unified by the Tokugawa after centuries of division under warlords and shoguns. Under the Meiji, the Japanese economy and military were modernized and reformed according to Western models. Its effectiveness put Japan on an equal footing with Europe, both financially and militarily. However, the wealth acquired by the Japanese was probably not what initiated their strategic effort toward obtaining sea power.

The catalyst of Japanese Westernization and naval interests should be credited to Western naval and military influences on China. The European commercial and colonial presence in Asia was rapidly approaching its shores, and Japan was primarily concerned with this threat of European encroachment. Japan sought useful technology and economic systems from the Europeans to beat them at their own game. This European threat induced the Meiji to form its national strategy toward creating a capable navy rather than building its land force. The maritime defeat of Satsuma and Choshu by

14 Kennedy, Paul M., *The Rise and Fall of British Naval Mastery* (Amherst, New York, 1983) pp. 187-188.

Western warships, along with Commodore Perry's uncontested naval fleet, created Japan's urgency to modernize its navy. [15] The Meiji government saw naval strength as paramount to the defense of the nation.

Early attempts at naval modernization were difficult and expensive due to the lack of a foundation for a strong naval force. The Japanese fleet was a collection of old and outdated ships purchased from Western nations. It lacked continuity among its various weapons and armaments, and its limited propulsion capabilities were suited only for coastal defense.[16] Prior to the Meiji, waterborne vessels were only used to support the army. The transition was slow and foreign assistance negligible, but the Japanese demonstrated their determination to create a naval force capable of defending the country from foreign naval invasion. Recruitment and training were aggressively pursued with the European navies as models.

D. SEA TRIALS AND CONFIDENCE BUILDER

Japanese experience in naval operations was virtually non-existent prior to the Meiji period. During the previous nine centuries, only two attempts had been made to invade foreign countries, both ending in disaster.[17] The "terra-phile" Japanese army was reluctant to give equal footing to or share resources with the navy. In the past, ships had been used only as a means of transporting land troops. The army viewed the navy as a supporting unit, but not as a battle force. Naval organization was ultimately ironed out by the 1890s, and when all of the military was placed under the banner of the Emperor, the Japanese navy was given a higher status than before, but it was still subordinate to the army.[18] However, the growing influence and reorganization of the navy soon made it ready for action. The two attempted naval failures of the past centuries were about to be reversed against its old rivals, China and Korea.

Japan perceived China as an obstacle and a rival to its desire for regional power. The modernization of the Japanese naval forces greatly enhanced the Meiji government's ambition to control its sea lanes and expand its territory. Prospects for empire building

15 Kennedy, Paul M., *The Rise and Fall of British Naval Mastery* (Amherst, New York, 1983) p. 7.

16 Ibid p. 8

17 Evans, David C., and Peattie, Mark R., "First Success," *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1887-1941* (Naval Institute Press, 1997) p. 2.

18 Ibid., pp. 1-51.

were limited to the Asian continent due to the delayed colonization in comparison with the European powers. These perceptions greatly influenced the future strategic perspective of Japanese naval thought.[19]

Japan's growing interest in increasing its regional power and China's determination to stop this expansion in Korea, its tributary kingdom, caused major friction. China also built up its naval forces after humiliating defeats from France. [20] Korea proved to be a flashpoint for both China and Japan. China strived to maintain regional power and sustain status quo over Asia, while Japan aimed to take control over former Chinese interests.

E. FINDING THE PHILOSOPHY AND WEAPONS MIXTURE

The Sino-Japanese War of 1894-1895 provided Japan its first operational experience in naval warfare. The Chinese navy appeared initially to have the advantage because its ships were more numerous. China possessed two German battleships that Japan could not have countered. However, Japanese weapon designs were different in philosophy in that they opted for a faster rate of gunfire rather than a larger caliber or punch power. Quick-firing guns that could be loaded and fired at a much faster speed than the large Chinese guns may have been a decisive edge for the Japanese fleet. Ships with quick-firing guns were able to inflict heavy casualties on the Chinese ships.

Japanese tactics were also better than those of the Chinese. The "Flying Squadron," comprised of fast ships, led the pack and attacked the weakest flank, while the slower ships finished off the remaining enemy in the rear. Japanese communications were subsequently better under their unified command, while the Chinese Peiyang Fleet consisted of four separate regional forces. Ultimately, Chinese retreating ships were trapped in port and captured by advancing Japanese land forces.[21]

The victory over China was crucial to Japan's future naval advancement because it symbolized a moral victory against a formidable foe by a smaller but more disciplined naval force. This victory underlined the importance of tactics, communications, and

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19 Evans, David C., and Peattie, Mark R., "First Success," *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1887-1941* (Naval Institute Press, 1997) p. 5.

20 Ibid., p. 19.

21 Ibid., pp. 32-51.

speed, along with a balance of armaments and guns. The subsequent advancement of the Japanese navy incorporated the lessons learned from this victory over the Chinese fleet and applied it against a powerful European foe.

F. THE NEW CONTENDER

Japan's progress was rapidly achieving parity with the Western maritime powers by the beginning of the 20th century. Japan, fresh from victory over China and in pursuit of its empire, took an interest in the borders of Korea and Manchuria. Korea and Manchuria were preyed on for their geographical proximity to home and their historical subordination to China. Victory initially appeared an easy task, since neither country possessed a formidable military. However, the Russian presence and interest in the region made things much more difficult for Japan.

The Russo-Japanese War was a contest for the control of colonies. Japan needed to control the seas to support its army in Korea. To neutralize the Russian navy, Japan deployed its Combined Fleet under Admiral Togo Heihachiro, an experienced naval commander who was educated in Great Britain. He led the fight against the Russians and proved Japan's mettle as an emerging naval power.[22] Japan, although inferior in numbers of troops and ships, successfully defeated the Russians in a series of battles.

Among the naval and land battles worth highlighting is the Battle of Tsushima. The Russian Baltic Fleet that sailed from Europe to Japan was forced to choose a second option after the initial objective of relieving Port Arthur, which was no longer viable since the Japanese land forces had already occupied it. The Baltic Fleet proceeded to Vladivostok thorough Tsushima, which is located between Korea and Japan, where they were consequently discovered and defeated by Admiral Togo. This was one of the most decisive naval battles, costing the Russians 34 of their 38 ships, which were sunk or destroyed.[23] Russia soon sought peace due to its lack of military success and its growing concern over civil war. The Russian defeat elevated Japan to a new sense of pride and confidence in its ability to compete with European adversaries. Great Britain renewed a

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[22] Evans, David C., and Peattie, Mark R., "First Success," *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1887-1941* (Naval Institute Press, 1997) p. 82.

[23] Ibid., p. 124.

Japanese alliance during World War I and recognized Japan's sphere of influence in Asia over Korea and Manchuria. Japan continued its regional dominance until end of World War II.

G. GETTING READY FOR A BIG FIGHT

Japan's success in colonization, with the help of its navy, demonstrated the importance of sea power as a strategic national interest. The remaining territory and region fit for colonization by Japan lay in the Pacific. Japan's formal ally in World War I, the United States, also maintained a keen interest in the Pacific region. The interests of Japan and the United States overlapped mainly in the Philippines, Hawaii, and Guam, and so charted a course of eventual collision. Japan's alliance with Germany and Italy during World War II and its attack on Pearl Harbor ultimately pulled the United States into the conflict.

The technological innovations behind Japan's navy also propelled its industrial forces toward World War II. Shipbuilding and aerospace industries, run by Mitsubishi and other conglomerates, manufactured and designed aircraft such as the "Mitsubishi Zero-A6M." Japanese ships and aircraft carriers rapidly improved. Japan was one of the few countries in the world that possessed engineering capabilities for such weapons. On this footing, Japan challenged the United States and its unrivaled materials and manpower to engage in a war. Nevertheless, Admiral Yamamoto Isokuro, commander-in-chief of the Combined Fleet protested, "…[o]ut of the question! To fight the United States is like fighting the whole world." [24] After almost four years of fighting, the war ended in 1945.

H. CONCLUSION

Overall, Japan's creation of a global naval power was a success. The military projected its power throughout Korea and China to become a dominant Asian force with its victories over China and Russia, a Eurasian nation. Its wealth, acquired through the Meiji restoration period, satisfied the initial condition to build a costly navy, which in turn, embedded the navy into national strategy. Subsequently, Japan dominated regions that were rich in resources.

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[24] Marzolda and Fitzgerald, *From Military Assistance to Combat*, 108,111,162-163, quoted in George W. Baer, "The U.S. Navy, 1890-1990," *One Hundred Years of Sea Power*, (Connecticut: Stanford University Press, 1993) p. 169.

The industrialization of Japan's economy would not have succeeded without the modernization of its navy. Even after losing World War II, the Japanese economy kept par with European powers and is currently the second largest economy in the world. The high cost and growing pains of creating a strong navy were an invaluable investment for achieving Japan's national interest. The PRC currently has enjoyed economic advancement similar to that of Japan, which allowed it to modernize its naval forces in the late 1800s. The PRC will likely create and maintain a navy that will enhance its strategic interest as the Japanese did. The People's Liberation Army's Navy (PLAN) will most likely face similar challenges as the early Japanese imperial navy did in incorporating modern technology to build its naval force and finding the right mix of doctrine and weapons. The PLAN's experience and confidence-boosting victories will likely come from close to its littoral waters, as was the case with Japan.

III. FLEDGLING TO ADOLESCENCE

The People's Liberation Army (PLA) has undergone a major transformation in strategy and modernization since its inception in 1927 by the Communist Party in China. The communist strategy mainly evolved around its perception of threat and increased economic progress. Since 1949, the PLA's main purpose has been to secure and protect the ruling communist regime from largely land-based threats. The military's culture and traditions may hinder its strategic thinking. Development of a modern, professional force capable of operating beyond China's borders may take much more time than the People's Republic of China's (PRC) leadership wants or anticipates.

This chapter will discuss PLA strategy and modernization from its early years to the present. Analysis suggests that even though the People's Liberation Army has modernized many aspects of its military forces, it is at least a few decades away from contending with the United States Navy in a "blue water" environment like the Persian Gulf. [25]

A. PLA BACKGROUND

Traditionally the PLA's ground forces have been the centerpiece of its military might, with the Air Force and Navy playing supporting roles. The strength of the PLA has always been its size.[26] Even the name, "People's Liberation Army," points out its obvious strength. The sheer number of troops is truly amazing, with over 2.31 million soldiers in the military, in addition to 500,000-600,000 in reserve units as of 2001. Aside from regular army units, the People's Armed Police (PAP) supplements the PLA in the

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[25] According to Wikipedia, the definition of "color" in water represents distance from land.

The **brown water** environment consists of the HlittoralH areas, from the coast and HestuarialH areas to perhaps a hundred miles from shore. It is the most important maritime arena, including all coastal traffic and territorial waters, in which are found the great majority of a nation's HmaritimeH HpoliceH, customs, environmental, and economic concerns.

The **green water** environment extends from of the outer edge of the brown water zone past any Hcontinental shelvesH, HarchipelagosH and HislandsH; perhaps a thousand miles from shore.

The **blue water** environment extends from of the outer edge of the green water zone through the global deep HoceanH.

From Hhttp://en.wikipedia.org/wiki/Blue_waterH [Last accessed June 16, 2005]

[26] Bernstein, Richard and Munro, Ross H., *The Coming Conflict with China* (New York: Alfred A. Knopf, Inc., 1997) p. 67. PRC's military strength was close to 4 million in the mid-1980s. Efforts were made to reduce the number of troops in the 1990s.

paramilitary role, with 1.5 million officers. The PRC commands the biggest military in the world today, with Russia and United States placing a distant second and third with 1.5 million and 1.3 million troops, respectively, in 2000.[27]

B. SINO-SOVIET RELATIONSHIP

The Soviet Union played a large role in developing and modernizing the PLA. The Sino-Soviet Treaty was signed in 1950 and created a formal alliance between the PRC and the Soviet Union. Under its terms, China gave the Soviet Union certain rights, such as the use of a naval base, in exchange for military support, weapons, and economic and technological assistance, including technical advisers and machinery. For example, during the 1950s, the PLA's air force was able to modernize by acquiring massive numbers of Soviet MiGs and air-defense weapons. Soviet military assistance helped to build PLA military doctrine and technology. In the late 1950s, major differences emerged that led to Moscow terminating military assistance to China, which could have erupted in a war in 1969. In the early 1990s, however, after the collapse of the USSR, Russia resumed its former role as a supplier of weapons and military technology to China. Even today, Russia is the PRC's primary foreign weapons supplier.[28]

C. PHASE ONE

The strategy of using manpower as the greatest resource the Chinese had against a superior enemy (in terms of technology, weapons, logistics) — the concept of a "People's War" — was introduced from 1937-1945 against the Japanese during World War II. It was formally reintroduced by Mao Zedong from 1960 to 1978. The basic theory was to lure the enemy into China and take advantage of geography, using numerically superior numbers of troops, to defeat a technologically superior force.[29] The PRC hoped that the poorly equipped and trained PLA could effectively stave off its aggressor using its people, hence the term and strategy.

The expansive landmass of China was used to construct defensive and economic zones in the country's hinterlands. The PRC's creation of economic zones in remote and

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[27] International Institute of Strategic Studies, *The Military Balance 2001/2002* (Oxford: Oxford University Press, 2001).

[28] "European Union's Arms Embargo on China: Implication and Options for U.S. Policy," CRS Report for Congress, April 15, 2005. p. 14.

[29] Shambaugh, David, *Modernizing China's Military* (University of California Press, 2004) p. 58.

desolate parts of the country was purely a defensive strategy. In the 1950s and '60s, the PRC challenge was to defend its territory mainly against threats from the U.S., via Taiwan and/or Korea. The Soviets were also perceived as a threat during the 1960s and 1970s. The strategy of the PLA was to use the land as a buffer zone to wear out the enemy. Meanwhile, the factories in the interior produced weapons and sustained the economy so that the people's war could slow and grind the enemy to a halt.

D. PHASE TWO

Late in 1978 to 1985, the focus changed from a "people's war" to "people's war under modern conditions".[30] By the 1970s, many countries, including the United States, recognized the PRC as the legitimate government in China instead of the Republic of China (ROC) or Taiwan. The international recognition of the People's Republic of China brought normalization to economic relations between the United States and the rest of the world. The warming relations with the West gave the PRC an opportunity to modernize its forces. Its overall strategy shifted from "luring the enemy in deep" to stopping the enemy at the border.

E. PHASE THREE

The PRC's prestige and confidence was growing by the mid-1980s, and China no longer assessed invasion from Soviet Union and United States as a high probability. The PLA shifted its grand strategy to "local, limited wars."[31] The limited scope of wars to prepare for was vastly different from the PLA's previous strategy and contributed to initial reduction in troop numbers in 1985.

The Chinese army, with more than 4 million men and a small but capable nuclear weapons arsenal, made China a hard target for any country to challenge. In 1971, PRC became an influential voice as a permanent voting member of the United Nations. In addition, the formal recognition of PRC in 1979 by Washington gave Beijing status as the legitimate sovereign government of China.

F. PHASE FOUR

The strategy changed once again after the United States routed Iraq, the fourth largest army in the world at the time. The events of the Gulf War in 1991 were an eye

30 Shambaugh, David, *Modernizing China's Military* (University of California Press, 2004) pp. 62-66.

31 Ibid., p. 64.

opener for the PRC, and it forced the country's strategy to shift from "local, limited wars" to "local, limited war under high-tech conditions," which is the current focus of PLA development. The massive aerial attack during Desert Storm and "100-hour ground war" solidified Beijing's conclusion that the number of soldiers does not equate with victory or security.

Operation Desert Storm was carefully studied by the PLA because of Iraq's use of Chinese weaponry. Laser-guided weapons and advanced command, control, computer, and integration using high-tech surveillance equipment took apart the fourth largest army in the world in a matter of days. The ineffectiveness of Iraq's military was even more stunning to PLA brass due to the systematic destruction of Chinese-made tanks, trucks, and planes, and the complete neutralization of the Iraqi air force and communications system. PLA leaders may have envisioned that the same situation could happen to China in the event of war against Taiwan involving the United States. Changes had to be implemented to avoid the likelihood of a similar demise.

G. PLAN MODERNIZATION

Trends in world politics along with economic growth in China have changed Beijing's view of its security needs, leading it to look further outside its borders instead of simply defending its territory. The collapse of the Soviet Union in 1991 and the shift in threat assessment toward Taiwan created a drastic change in strategy. This shift of focus meant giving priority to the PLA's navy (PLAN) and air force (PLAAF), instead of ground forces. According to the U.S. Secretary of Defense in his FY99 Report to Congress:

> Beijing's military modernization program, underway for the past two decades, is designed to prepare the PLA to conduct regional active defensive warfare in support of Chinese economic interests and sovereignty claims.[32]

1. Weapons in Hand but Not Ready for Use?

The PRC's modernization since the Gulf War has been extensive. However, the training and the technology are still many years behind. Some analysts have argued that

[32] Report to Congress Pursuant to the FY99 Appropriations Bill, February 26, 1999. From Hhttp://www.defenselink.mil/pubs/twstrait_02261999.htmlH [Last accessed June 11, 2005]

the PRC has assigned its navy a prime role ahead of its army and air force.[33] The most striking development is the commissioning of several 10,000-ton class all-round supply ships.[34] This is a pivotal change in Chinese naval history because a supply ship of this size is indication of an intention to build a navy that can extend far beyond its coastal waters.

It must be noted that possessing the right equipment alone does not guarantee that a navy can carry out complex operations during a crisis. It takes years of knowledge and persistent training for the officers and crew to skillfully and safely conduct an underway replenishment (taking on fuels, food, equipment, personnel, etc., from ship to ship while at sea). In addition, coordination of ships must be well orchestrated, and relatively safe places to conduct such operations must be found. This type of operation requires efficiency in training and communications, as well as sea superiority. PLAN has certainly made improvements in these areas, but it seems it is not yet able to synchronize all necessary levels. Even if PLAN effectively masters the training and communications aspects in a few short years, it is many years from achieving naval superiority against the United States Navy in "blue water."

2. Domestic Production and Improvements

The People's Republic of China's commercial shipbuilding has improved significantly.[35] Although China still lags behind Korea and Japan in shipbuilding, it has caught up in main commercial ship manufacturing. The PRC's ability to produce large, sophisticated ships has improved dramatically in the past 20 years. The Chinese have been developing Luhu class destroyers and Jianwei class frigates since the 1980s. The type 052C Lanzhou class destroyers are being developed with phased-array radar similar to U.S. Arleigh Burke class destroyers.[36]

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[33] Aharari, M.E., "Strategic Implications of China's Naval Modernization," Armed Forces Staff College, October 1998. p. 1.

[34] "Will China Take Over World Manufacturing," *The International Economy*, Winter 2003. p. 72.

[35] See Appendix B, "European Union's Arms Embargo on China: Implications and Options for U.S. Policy," CRS Report for Congress, April 15, 2005. p. 14.

[36] Chinese Defense Today. From Hhttp://www.sinodefence.com/navy/surface/052c.aspH [Last accessed May 16, 2005]

3. Foreign Technology and Acquisitions

The greatest threat to the United States Navy will undoubtedly come from the PRC's development of undersea assets and its recently acquired Russian weaponry — especially Sovremenny class destroyers. [37] In 1996, an $800 million deal was reached between PRC and Russia, and by April 1999, two Sovremenny class destroyers were delivered.[38] These destroyers are capable of launching SS-N-22 Sunburn Missiles, which can kill an aircraft carrier in a single stroke. They are widely believed to have been acquired as a deterrent to stop the U.S. 7th Fleet from intervening in a Taiwan Strait crisis.

4. Naval Components

A glimpse of PLAN's overall strategy may be had by looking into what type of weapons it is acquiring. Overall, the number of surface ships has gone up, but the number of vessels that can be used to project power beyond "green water," like nuclear-powered submarines, aircraft carriers, logistics ships, and amphibious ships, is still not significant enough to consider PLAN as having a "blue water" ambition.

a. Submarine Force

PLAN has a relatively large quantity of patrol submarines and a few attack submarines that can create havoc against its enemies. Most of the PLAN submarines are old and technologically inferior to U.S. subs, but they are very difficult to locate (regardless of sophistication). Patrol subs, such as Ming and Romeo class boats, have an estimated strength of about 70. Submarines of any type or number can seriously affect a naval battle, regardless of technology, because they are difficult to detect. Most of the PLAN submarines are diesel-electric powered, which are relatively quieter and cheaper, but they are limited to coastal waters. A few nuclear-propulsion submarines, which have a much greater range compared with diesel electric, are coming into service soon, but PLAN has not shown great emphasis on obtaining such equipment.[39]

b. Surface Navy

Acquisition of certain hardware may be a telltale sign of the PLA's overall modernization intentions. On March 3, 2005, PLAN purchased a 130-ton Russian Zubr

[37] See Appendix B., "European Union's Arms Embargo on China: Implications and Options for U.S. Policy," CRS Report for Congress, April 15, 2005. p. 14.

[38] "Sovremenny Class (Project 956/EM) Missile Destroyer," China Defense Today. From Hhttp://www.sinodefense.com/navy/surface/sov.aspH [Last accessed June 16, 2005]

[39] See Figure 2.

class LCAC[40] (Landing Craft Air Cushion).[41] The Zubr class LCAC has a capacity to reach Taiwan from mainland China at speeds up to 100 kilometers per hour. After many years of a stagnated amphibious force, this occurrence may indicate a new trend.[42] The LCAC's advantage is speed, but its disadvantage is the distance it can travel.[43] The U.S. Navy and other fleets use LCACs for power projection by using amphibious ships like Dock Landing Ship (LSD), Amphibious Transport Dock (LPD), and Amphibious Attack Ship (LHA) to transport a limited number (two or three) of LCACs in their well decks, which can then be launched near the objective. Additionally, PLAN amphibious capabilities are very limited. According to a report in January 2000, the inventory of amphibious ships included only 49 ships with 1000 tons of displacement, with some that were built during the World War II era.[44] If PLAN mainly concentrates on purchase of LCACs and ignores amphibious ships that can carry LCACs, it may suggest that PLAN is intending to use the LCACs close to China's shores.

c. Aircraft Carriers

Acquisition of the former Soviet aircraft carriers Varyag, Minsk, and Kiev over the last decade brought much speculation about PLAN's blue water goals. It may have been only hype, after all no real progress in building an aircraft carrier has materialized. In 1992, Chairman Deng Xiaoping gave the green light to start building an aircraft carrier by 1993. There are complex issues and problems in building an indigenous aircraft carrier or upgrading Russian aircraft carriers, including technical, financial, and geopolitical problems according to Ian Storey and You Ji.[45] For example, propulsion and electronics in the ex-Soviet carriers were stripped before being delivered. Also, China does not have any aircraft that can operate from these aircraft carriers due to the size limitation of current aircraft and no inventory of vertical short take-off and landing (VSTOL) aircraft, such as Harriers. PLAN was rumored to have at least three

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40 LCACs are designed to quickly get limited troops and equipment on the beachheads.

41 "Amphibious Operations: San Antonio Class LPD Crawls Forward," *Strategy Page*, April 6, 2005, pp. 1-6.

42 Baker, A.D., World Navies in Review, *Naval Institute Proceedings Magazine*, March 1998. p. 3.

43 LCACs aren't designed to undertake a long, transoceanic voyage.

44 Moore, F.D., "China's Military Capabilities," IDDS, June 2000, p. 6.

45 Storey, Ian and Ji, You, "China's Aircraft Carrier Ambitions: Seeking Truth From Rumors," *Naval War College Review*, Winter 2004.

aircraft carriers in operation by 2005 (none of which have been built or commissioned yet).[46] Some analysts believe that decrepit aircraft were purchased to use as models to study and reverse engineer or use as training platforms. In any case, PLAN aircraft carrier development seems to be on hold at this moment.

5. Why no Blue Water in PLAN?

The PRC's "blue water" goals have not been met so far, and remain elusive for a number of reasons. First, despite economic growth, the PRC still lacks the financial resources and knowledge to modernize to that level. Second, Beijing's main focus remains the Taiwan issue. Third, Soviet operational doctrine and tactics still persist, which hinders PLAN transition into blue water capability.[47] Many scholars also subscribe to the belief that the PRC hopes to attain a blue water navy and enhance its power-projection capabilities. The most logical method of achieving this goal is described by Mohammed Ahari from Armed Forces Staff College, and includes an increase in logistic supply ships, nuclear-powered submarines with offensive platform, and state-of-the art command-and-control systems.[48]

H. MIX AND MATCH

The PLA's modernization does have inherent weaknesses. There are three main focuses to PLA modernization: acquisition or purchase of foreign arms, especially high-tech weaponry; domestic improvement and innovation of technology and reverse engineering; and training and promoting professionalism.

The purchase of modern weaponry from foreign markets has helped the PRC's military capabilities to an extent, but it also created problems of integration. The Japanese faced similar problems in the late 1800s, when ships and weapons of all types were purchased from Western nations. The Japanese tried to find a theme and naval strategy using all different types of weapons. China is facing a similar situation: trying to find the right mix of weapons for its national strategy. Modernization of the air force and navy by purchasing different types of weapons from many different sources has resulted

46 Smith, F.S., and Evans, D.J., "PRC Commitment to Aircraft Carrier Program Evidenced by Beijing Dealing with Turkey, Russia," *Defense & Foreign Affairs Daily*, September 6, 2001.

47 Ji, You, *The PLA's Blue Water Illusion: Legacies, Models and Reality*, CAPS Papers 32 (Taipei: Council of Advanced Policy Studies, December 2001).

48 Aharari, M.E., "Strategic Implications of China's Naval Modernization," Armed Forces Staff College, October 1998. p. 9.

in upgrades of mix-and-match systems. Many submarines and ships are being upgraded with commercial electronics and modified versions of old ships using newer technology as the foundation. There is no integrated theme or identity in the PLA's weapons inventory.

I. TECHNICAL CHALLENGES

The PLA's effort to reverse engineer the high-tech weaponry has had limited success. The PLA's aircraft engines and the naval ship propulsion systems are sub par compared with modern Russian and U.S. systems. Most of PLAN's modern ships and and aircraft still use General Electric or Rolls Royce engines. There have been significant problems building nuclear-powered submarines. The SSBN "Xia" class submarine failed test launches, and not much effort is carried out to modernize the strategic submarine fleet. The newer Type 094 class was also delayed in its launch due to nuclear reactor problems as of December 2000. In 2004, U.S. intelligence reported spotting a Type 094 on the coast of Bohai Bay, but Pentagon reports indicate that submarine will not be operational until 2010.[49] The aircraft carriers that PLAN purchased from the Soviet Union have been turned into tourist attractions after a cost-and-benefit analysis concluded the upgrade program was not viable.

J. BUDGET

The PLA budget has grown immensely due to the PRC's economic success. The public budget, most analysts agree, is a fraction of the true figure.[50] The absolute size of the overall budget has increased substantially, but as a proportion of gross domestic product (GDP), it has not changed much. The "official" 2004 budget of $30 billion USD jumped significantly over 2003 (by 20 percent).[51] In order for the PLA to modernize and update its armed forces, there must be an increase in military expenditure as compared to GDP, which has not happened. At this rate, the PLA may able to modernize slowly, but it will have a difficult time producing a blue-water navy within the next two decades.

K. ISRAEL CONNECTION

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49 GlobalSecurity.org, "Weapons of Mass Destruction, Type 94." From Hhttp://www.globalsecurity.org/wmd/world/china/type_94.htmH [Last accessed June 16, 2005]

50 Shambaugh, David, *Modernizing China's Military* (University of California Press, 2004) pp. 210-224.

51 "European Union's Arms Embargo on China: Implications and Options for U.S. Policy," CRS Report for Congress, April 15, 2005. p. 13.

The PRC faces limited options when it comes to acquiring high-tech weapons. Israel remains the second-most important source of advanced military technology for the PRC.[52] Total estimates of Israel's military exports to the PRC are around $162 million USD from 1993 to 2002.[53] The Tiananmen Square incident in 1989 angered many Western nations, which began a boycott of arms sales to China, including by the United States. Even though the PRC and Israel have established a warming relationship since 1990, Israel is still susceptible to Washington's influence. For example, pressure from Washington on Tel Aviv caused cancellation of some sales, such as the Phalanx cruise missile defense for ships.[54] Many European Union (EU) countries want to end the arms embargo, including France and Britain. However, pressure by United States has kept the lid on arms sales for the moment.

L. PLAN VS. NEIGHBORS

The Southeast Asian countries' naval forces are comparatively weak versus the modernizing PLAN fleet. For instance, the Philippine Navy has less than a half dozen antiquated U.S. frigates and a dozen corvettes to patrol its 7,100 islands and 36,000 kilometers of coastline.[55] Furthermore, none of the major combat ships are equipped with anti-ship missiles or possess any antisubmarine technology. The closest support it may receive is from the U.S. 7th Fleet out of Japan. However, the transit time for U.S. naval forces to reach the South China Sea can take as long as four days. Small islands such as the Spratlys can easily be overwhelmed by the PLAN in less time than it takes for help to reach them. Currently PLAN does not appear to have this power-projection capability, but current modernization of its fleet for a possible Taiwan invasion may allow it to achieve this goal.

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[52] See Figure 1.

[53] Fisher, D. R., "The Impact of Foreign Weapons and Technology on the Modernization of China's People's Liberation Army," Center for Security Policy, January 2004.

[54] "PRC Statement Warns 'Other Countries' Not To Meddle in Israel Arms Trade," *Hong Kong AFP in English*, January 3, 2003.

[55] AllRefer Reference & Encyclopedia Resource, "Philippine Navy." From Hhttp://reference.allrefer.comH [Last accessed June 11, 2005]

M. CONCLUSION

The People's Liberation Army (especially PLAN) has undergone extensive modernization based on Chinese threat assessment and China's economic progress. However, it is not likely to possess the capability to contest the U.S. Navy in the Persian Gulf by 2025.

Modernizing the PLA into a high-tech army presents a great challenge since the PRC still lacks capabilities and often needs foreign assistance to do so. The PLAN's current inventory and its modernization clearly demonstrate a desire for regional dominance in Asia, especially in the places relevant to China's economic growth, but its goals seem to be limited. Domestic capabilities for shipbuilding and technology have increased with the help of weapons acquisition and technology transfer from countries like Russia and Israel. However, political pressure by the United States can substantially hinder high-technology sales to the PRC.

The PLA faces many challenges in technology and training that can transform its massive military into a modern military. Beijing's goal of becoming a regional power that can defeat less-able countries in the disputed territories and regions seems to be the main focus at this point. A combatant match-up of PLAN against the United States Navy in the Persian Gulf is highly unlikely by 2025.

PRC ARMS IMPORTS, 1993-2002*												
	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**Totals**	**%**
Russia	772	79	376	945	430	111	1334	1642	2948	2185	10822	92
Ukraine	55	22		73	73	73	73	78	73	113	633	6
Israel	18	18	18	18	18	18	18	18	18		162	1
France	5	19	14	21	15	7	18	7	7	9	122	1
Italy		5	11	5	3		11		3		38	0
USA	1						31				32	0
UK						16	10				26	0
Year Totals	851	143	419	1062	539	225	1495	1745	3049	2307	11835	
* $ millions; Source: Stockholm International Peace Research Institute, February 26, 2003												

Figure 2. PRC Arms Imports, 1993-2002

IV. DISTANCE DICTATES PRIORITIES

The People's Republic of China's (PRC) future strategic interests and focus will depend on the capabilities of its navy and the distance it's able to operate its navy in the sea from its shores. The priorities of the People's Liberation Army Navy (PLAN) are likely to be directly proportional to the distance it has to travel by sea. This may seem trivial or simplistic since the influence of the country's military might (PLAN in this case) is only credible where it can effectively operate a military campaign.

Currently, the PRC doesn't have a substantial naval influence – or the like. The country does not have a "blue water navy," but it has arguably transformed its "brown water navy" into a "green water navy" since the formation of the PRC in 1949.[56] The PRC's naval power is constrained by its limited logistical and power-projection capabilities far from its shores. Evidence supporting this is a 1980s statement made by Admiral Liu Huaqing, former commander of PLAN and vice chairman of the Central Military Council CMC. He stressed the strategic importance of the "first island chain" and "second island chain."[57] The PLAN strategic priorities still appear to be dictated by this distinction, given that it has not accomplished its goal of controlling seas near its littoral waters, with Taiwan, also known as the Republic of China (ROC), being a prime example. Furthermore, Liu emphasized that the Chinese Navy should exert effective

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[56] A navy that can operate sustained operations far from its littoral waters and have power projection capabilities. Aircraft carriers, nuclear-powered submarines, and underway replenishment ships may be part of the equation for possessing a "blue water navy". "Brown water navy" refers to a navy only capable of operating close to its coast, while "green water navy" refers to naval operational coverage in a country's littoral waters and beyond but with limited power projection beyond.

[57] McDevitt, Michael, "Ruminations About How Little We Know About the PLA Navy," October 10, 2000. From Hwww.ndu.edu/inss/China_Center/CMA_Conf_Oct00/paper14.htmH [Last accessed June 11, 2005]

The First Island Chain of the Kuriles, Japan, Taiwan, the Philippines, and Indonesia delineates the first of these. It includes the Yellow Sea, facing Korea and Japan; the western East China Sea (ECS), including Taiwan; and the South China Sea. This line demarcates an area of China's vital national interests: territorial claims, natural resources, and coastal defense. Liu hoped to have a PLA Navy in hand by the year 2000 that would be capable of asserting Chinese control, if required, of this maritime area**.**

The Second Island Chain extends the stage one line to run from Japan through the Bonins and Palau, and then to Indonesia, to include all of the ECS. The target date for achieving PLAN "control" or at least "denial" of this area was nominally by 2020.

The third stage of Liu's maritime strategy, which was really more of a building plan, was aimed at the rest of the Pacific Ocean. The "strategic goal" was a PLAN that could act as a global force, or at least a pan-Pacific force, by 2050.

maritime control on the "first island chain" as its primary goal.[58] If Admiral Liu's strategy of multiple tiers of goals holds true, then the precedence can subsequently be deduced to the following order:

- Taiwan and South China Sea contested territories
- Regions currently beyond PLAN's operational capabilities

This chapter will illustrate PLAN's maritime strategy as primarily focused on the Taiwan Strait and South China Sea for the near future. Although the Persian Gulf and Middle East are important to the PRC's economy, PRC has prioritized its objectives into realistic goals based on unfinished business like national reunification, resources, and political influence. It is the contention of this thesis that the Persian Gulf will have to take a back seat (after 2025) until the primary goals of national reunification, control of its littoral waters and strategic sea lanes of communications in the South China Sea, and a blue water navy has been developed by the PRC.

A. UNSOLVED PROBLEM

Reunification of Taiwan with China appears to be the primary concern for the PRC. The Taiwan issue goes beyond the scope of this thesis, but it should be noted that PRC's maritime strategy in the Persian Gulf is a distant goal after the Taiwan issue.

The PRC and the ROC have been at odds with each other since the communist victory led by Mao Zedong over the Kuomintang forces led by Chiang Kai-Shek in 1949. Chaing Kai-Shek fled to Taiwan to create a separate government. Currently, the military match-up appears to be heavily in favor of the PRC in terms of numbers. The PLA is the world's largest army with 1.7 million men, versus the ROC's 200 thousand (overall numerical ground force advantage is 7:1 in the PRC's favor).[59] The PLA also has an overwhelming numerical advantage in its number of tanks and aircraft. The countries are, however, separated by 130 miles of water (see Appendix D).[60]

PLAN currently lacks the amphibious lift capabilities to place the ground troops to take Taiwan by force. One can assume that the PRC will continue to modernize its

[58] Zalamea, Ulysses O, "Eagles and Dragons at Sea: The Inevitable Strategic Collision Between the United States and China," *NWC Review*, Autumn 1996.

[59] Marshall, Richard, "China-Taiwan Dispute Primer," Virtual Information Center. p. 5.

[60] See Appendix D. From Hwww.people.fas.harvard.edu/~johnston/GOV90ia/taiwanstrait.jpgH [Last accessed June 11, 2005]

amphibious capabilities, as well as its submarine force, to protect its warships and transports involving conflict with Taiwan. Despite the PLAN's lack of overt capabilities, the PRC intimidated the ROC with naval exercises in 2004 prior to the Taiwanese presidential election.[61] PLAN will continue to play an important role militarily, and politically, with respect to the ROC.

B. CONTROL OF SOUTH CHINA SEA AND CONTESTED TERRITORIES

1. Strategies and Resources

The South China Sea has abundant resources, including untapped oil reserves and valuable fishing grounds, so the PRC may see it as being of strategic and economic interest. This places this region as the PRC's second most important maritime interest (see Appendix E).[62] There have been many incidents of hostilities in the South China Sea involving the PRC in the last two decades (see Appendix G).[63] The world's fish supplies have been in rapid decline due to over fishing and decimation of some rich fishing grounds, and Chinese fishermen are increasingly exploring areas that are farther away from their homelands in open seas. In March 2001, the Philippine navy forced 10 Chinese vessels to leave Scarborough Shoal (a rocky outcrop in the South China Sea).[64] There are a number of more serious clashes for fishing rights, including the deaths of 70 sailors and the sinking of several Vietnamese ships on Johnson Reef in the disputed Spratly Islands.

The problem exists due to ambiguous and sometimes unclear laws governing the exclusive economic zones (EEZ). The United Nations Law of the Sea dictates in Articles 55-75 that a country is entitled to control of an area up to 200 nautical miles beyond and adjacent to its territorial sea.[65] Tensions occur with countries that have overlapping EEZs. Chinese fishermen, and naval ships have occasionally breached territorial waters of its neighbors, steaming within 12 nautical miles of the shore, as demonstrated in

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61 "China Drill Before Taiwan Poll," *BBC News*, March 16, 2004.

62 See Appendix E. From Hwww.eia.doe.gov/cabs/schinatab.htmlH [Last accessed June 11, 2005]

63 See Appendix G. After Hwww.eia.doe.gov/cabs/schinatab.htmlH [Last accessed June 11, 2005]

64 Smith, Charles R., "Chinese Spy Ships Breach Japanese and Philippine Waters," April 9, 2001. From Hhttp://www.newsmax.com/archives/articles/2001/4/8/195441.shtmlH [Last accessed June 16, 2005]

65 Energy Information Administration, "Country Analysis Briefs, South China Sea Region," September 2003. p. 3. From Hwww.eia.doe.govH [Last accessed June 11, 2005]

September 2000 in Japanese and Philippine territorial waters. The PRC will likely hold onto the claims of these islands, as economic resources such as food and oil will be necessary to sustain their domestic and economic needs.

2. The Straits of Malacca

The Straits of Malacca is an important chokepoint[66] (see Appendix H) where vast amounts of shipping pass each year, totaling three times more shipping than the Suez Canal and five times more than the Panama Canal.[67] Eleven million barrels per day of oil went through this narrow strait headed for China, Japan, Korea, and other Pacific nations.[68] According to a report from the U.S. Energy Information Administration, the Straits of Malacca is likely to grow in strategic importance in coming years as more than 50,000 vessels per year transit the region and oil exports are increasing from the Middle East to China.[69]

3. The Spratly Islands

The oil reserves in Southeast Asia may be fiercely contested in the near future, and the Spratly Islands may reveal hidden treasures that its claimants are hoping to seize. The Spratly Islands, consisting of more than 100 islands and reefs, which are about 5 square kilometers in size, had been largely ignored by their many claimants prior to the 1950s.

The Spratlys' natural resources will grow in importance as countries that have traditionally been net exporters of oil are increasingly becoming importers as demand rises and supplies shrink. Furthermore, countries that have been net exporters of oil are becoming net importers of oil, as demand for oil is increasing while accessible supplies of oil are getting smaller. Also, instability in the Middle East is likely to further choke off dwindling oil supplies. Recent discoveries have suggested that there could be as many as 225 billion barrels of oil and 2,000 trillion cubic feet of liquefied natural gas in

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66 See Figure 4.

67 Energy Information Administration, "World Oil Transit Chokepoints," August 1999. From Hwww.eia.doe.gov/emeu/security/choke.htmlH [Last accessed June 11, 2005]

68 Energy Information Administration, "World Oil Transit Chokepoints," April 7, 2004. From Hwww.eia.doe.gov/emeu/cabs/choke.pdfH [Last accessed June 11, 2005]

69 Ibid.

the South China Sea and the shoals of the Spratly Islands.[70] This means the islands' claimants will not likely give up their goals of possessing the rich resources that lie underneath the Spratlys and the rest of the South China Sea.

Currently the PRC controls seven of the Spratly Islands and reefs, and it seized the Paracel Islands from South Vietnam in 1974 (see Appendix F).[71] The most notable recent hostility took place between the PRC and the Philippines at Mischief Reef. The naval clashes resulted in the sinking of ships and deaths of dozens of sailors.[72]

The PRC and the other claimants of the Spratly Islands seek two major goals: first, to control oil and natural gas reserves near the Spratly Islands; second, to control the shipping lanes near these islands. The vast amount of oil and natural gas has immense value to the Chinese economy and its rise to regional power in Asia. Currently, the Spratly Islands are claimed by Brunei, China, Malaysia, the Philippines, Taiwan, and Vietnam.[73] With the exception of Vietnam, the United States maintains high trade volume with all those countries. Two of the largest trading partners of the United States, Japan and Korea, heavily depend on oil that is transported through the Straits of Malacca near the Spratlys. The PRC's strategic goals in the South China Sea therefore play a prominent role as PLAN works to increase its naval capability.

C. PRC BUILDING UP STRATEGIC SEA LANES

The PRC's focus on strategic sea lanes is evident. China is intent on building stepping stones from China that stretch into the Persian Gulf. The activities surrounding the region indicate a Chinese strategic focus on protecting its ability to access oil from the Persian Gulf, as well as enhancing the country's ability to project influence throughout the region. According to a report presented to U.S. Defense Secretary Donald H. Rumsfeld:

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[70] Energy Information Administration, "Country Analysis Briefs, South China Sea Region," September 2003. From Hwww.eia.doe.govH [Last accessed June 11, 2005]

[71] See Appendix F. From Hwww.eia.doe.gov/cabs/schinatab.htmlH [Last accessed June 11, 2005]

[72] Magno, Alex, "Naval Power Play Sets Off Alarms," *Timeasia*, September 27, 1999, Vol. 154, No. 12.

[73] See Figure 1. From Hwww.eia.doe.gov/cabs/schinatab.htmlH [Last accessed June 11, 2005]

> China ... is looking not only to build a blue-water navy to control the sea lanes, but also to develop undersea mines and missile capabilities to deter the potential disruption of its energy supplies from potential threats, including the U.S. Navy, especially in the case of a conflict with Taiwan.[74]

Highlights of this regional expansion are as follows: [75]

1. Pakistan

A Chinese naval base is under construction and may include electronic eavesdropping posts to monitor ship traffic through the Straits of Hormuz and the Arabian Sea.

2. Bangladesh

China is strengthening political ties with the Bangladeshi government, hoping for future commercial and naval cooperation, and it is planning to build a container port facility at Chittagong.

3. Burma

Beijing has close ties with the military regime in Myanmar, which is close to the Straits of Malacca, an important strategic choke point through which 80 percent of China's imported oil passes. Electronic intelligence-gathering facilities are being built on islands in the Bay of Bengal and near the Straits of Malacca. Beijing has also supplied heavy military assistance to Rangoon.

4. Cambodia

A military agreement was signed in November 2003 to provide equipment and training. Beijing is also helping Cambodia to build a railway line from southern China to the sea.

5. South China Sea

Beijing appears to place greater importance on protecting transit lanes for tankers through the South China Sea than on past territorial claims. China is also building up military links to the mainland and Hainan Island for the purposes of projecting air and naval power. An airstrip on Woody Island has been upgraded and supplemented by oil drilling platforms and ocean survey ships.

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74 "China builds up strategic sea lanes," *Washington Times,* Jan, 23, 2005. From Hwww.infowars.comH [Last accessed June 11, 2005]

75 Ibid., pp.1-3.

6. Thailand

Construction of a "Kra Canal" has been proposed with help from the PRC, including $20 billion in aid to Thailand. The canal across the Kra Isthmus would enable ships to bypass the Straits of Malacca. Port facilities, warehouses and other infrastructure would be controlled by the PRC.

The report noted that the vast amount of oil shipped through the sea lanes, along with growing piracy and maritime terrorism, prompted China, as well as India, to build up naval power at chokepoints along the sea routes from the Persian Gulf to the South China Sea.[76]

D. CONCLUSION

The PRC's main goal for the next couple of decades points to reunification of Taiwan and control of the South China Sea. Taiwan is the major political and military thorn for the PRC dating back to 1949. The communist leadership in China has displayed a willingness to use all means possible, including intimidation and force, to reunite China. Although the PLA is overwhelmingly larger in size, it does not now possess the naval capability to take Taiwan by force. Therefore, it may be expected that PLAN will attempt to acquire many more amphibious and cargo ships in the future if it desires to reunite with Taiwan by force.

The South China Sea also seems to be an important concern for the PRC, aside from reunification with Taiwan. There have been many naval clashes between the PRC and its neighbors in the South China Sea since the 1970s. The Spratly Islands and Straits of Malacca will play a major role for PLAN because of their strategic and economic implications for the PRC due to its heavy reliance on the shipping and trade routes. Current PLAN capabilities will limit its power to China's green water for at least the next two decades.

Accomplishing the PRC's primary goals will not be easy due to resilient and persistent political pressure from Washington and the credible naval power of the U.S.'s Seventh Fleet, as well as Taiwan's navy. Control of the South China Sea by PLAN will

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[76] "China Builds up Strategic Sea Lanes," *Washington Times*, January 23, 2005. From Hwww.infowars.comH [Last accessed June 11, 2005]

be very difficult since the region has so many implications for the international community. The Spratly Islands will likely be on standby until a credible PLAN fleet is developed. The buildup of strategic access points toward the Persian Gulf may be what Beijing has planned, but it will only happen if other countries sit back and let it happen. Even then, given PLAN naval capabilities, Beijing will have a difficult time accomplishing this goal by 2025. The dragon will be on a "short leash" close to its own shores due to its focus of reunification with Taiwan and the country's lack of naval capabilities.

V. SILK ROAD

The People's Republic of China (PRC) may rely on Iran as a key ally in the Middle East to strengthen its foothold and to offset the U.S. position as the main policing agency of the region. President Jiang Zemin stated in 1994 that China should oppose "hegemony" by helping dissident countries like Iran, but he emphasized international stability and furthering China's development as more important.[77]

There are several obvious reasons why Iran and China have formed an alliance. First, Washington and Teheran have had an antagonistic relationship since the overthrow of the Shah and the taking of U.S. hostages in 1979. These events led non-Western countries like China to take advantage of the diplomatic opportunity with Iran. Second, the PRC does not want U.S. hegemony unchecked in the Middle East, where it may disrupt China's oil needs. The United States has a robust military presence in the Middle East, with more than 150,000 troops in Iraq alone in 2005, as well as a strong naval presence.[78] Assuming that Iraq, Saudi Arabia, Bahrain, and Kuwait will continue to allow an American military presence in their countries, Iran will remain the country likely to countenance a PRC naval presence.[79] Third, Iran and the PRC have mutually beneficial relations in terms of their economies and defense affairs. Fourth, and finally, the United States still maintains strong influence in the Middle East compared with China.

The main argument in this chapter is to assess how Iran and China will continue to build strong political and economic ties in pursuit of their strategic goals and interests that will benefit each other without provoking severe backlash by the world community.

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77 Rynhold, Jonathan and Lee, Deng-Ker, "Peking's Middle East Policy in the Post Cold War Era," *Issues and Studies*, Vol. 30, No. 8, August 1994. p. 85.

78 United States Naval Forces Central Command (NAVCENT) in Manama, Bahrain controls the naval forces in the Persian Gulf with ships rotating from the Atlantic and Pacific Fleet, comprising one or more Aircraft Carrier Group (CVBG), Expeditionary Strike Group (ESG), surface ships, submarines, and various naval assets. U.S. military has bases in Kuwait, Iraq, Saudi Arabia, and other gulf states.

79 See Appendix I, "Map of Persian Gulf." From Hwww.lib.utexas.edu/maps/middle_east_and_asia/arab_pennisula.gifH [Last accessed June 11, 2005]

This chapter underlines the PRC's interest in sustaining Iran as an ally to gain entry into the Persian Gulf. Beijing will use economic, security, and strategic measures to court Teheran and use its influence to stifle U.S. hegemony in the region.

A. REGIONS BEYOND PLAN'S OPERATIONAL CAPABILITIES

Beijing considered both Iran and Iraq to be of strategic and economic importance to China, but since the invasion of Iraq by the U.S., the only close ally remaining in the Persian Gulf is Iran. The oil ventures that China obtained from Baghdad disappeared virtually overnight, leaving only Iran as the major future oil source and buyer of its arms. Relations with Teheran are especially valuable to China, given the expected growth of Chinese energy demands as well as the expected increases in the market price of oil.

1. Background

There is a huge disparity between Iran and the PRC in terms of economic success. The PRC is recognized worldwide as the next economic giant. Iran, on the other hand, suffered dramatic economic decline and world prestige after the Ayatollah Khomeini overthrew Muhammad Reza Shah Pahlavi in 1979. Iran has been isolated by the West, largely led by United States, in retaliation for seizing its assets and taking hostages during the creation of the Islamic Republic of Iran. In 2001, after the terrorist attacks on the World Trade Center and Pentagon, President George W. Bush named Iran as one of the states sponsoring terrorism in his "Axis of Evil" speech. Iran and China have experienced vastly contrasting economic growth in recent decades.

Despite the differences between Beijing's and Teheran's political and economic development, they have found a mutual interest in developing strong ties and cooperation. These interests determine each country's priorities in foreign policy and dictate whether or not taking the risk to further develop their relationship is worth the trouble.

The diplomatic ties between Iran and the PRC have been a relatively recent development, and have had a rocky start. Initially, the governments of the People's Republic of China and Iran established diplomatic relations in 1922, and Iran was the first country in western Asia to recognize the post-dynastic government in China. However, volatility between the two nations increased in 1951 as Iran sided with the US when a majority in the United Nations condemned the PRC as an "aggressor" nation for

its part in the Korean War. Iran joined the Baghdad Pact in 1955 (along the lines of containment policy toward the USSR), and Beijing saw this as one more move in the U.S.-led policy of encirclement to contain the communist bloc.

Iran-PRC relations slowly improved with the collapse of the Sino-Soviet relationship in the 1960s. Beijing was isolated from both superpowers and desperately needed international backing. In 1971, Iran abstained from voting on the resolution to admit the PRC to the United Nations — the first time it had not voted against admitting the PRC — and in August of that year, the two countries established formal diplomatic relations.

Sino-Iranian relations continued to be strong as late as 1978. In September 1978, Mao Zedong's successor, Hua Guofeng, led a high-ranking delegation to Teheran, the last visit by a head of state to Teheran before the collapse of the Shah's rule.[80] In January 1980 — a time of warming relations between the United States and China — China abstained in the United Nations Security Council vote to sanction Iran for the hostage taking. Currently, China and Iran have close diplomatic, economic, strategic, and security ties that bind them despite pressure from the United States.

2. Yuan Renminibi and Rials

Iran has strong financial interests in promoting continued economic development with China due to its continued economic isolation from the United States and its lack of exports other than oil. Teheran's treasury has been depleted since the Iranian Revolution in 1979. The war between Iraq and Iran has cost the Iranians billions of dollars in military spending during the 1980s, and low oil prices, until most recently, launched Iran on a desperate search for cash.

The heavy reliance on petroleum exports amounting to 80 percent of its total exports has made Iran's treasury vulnerable to world oil prices. Iran's inefficient, state-controlled economy, along with its isolation from the West, has created high unemployment rates and a deteriorating infrastructure in Iran. The current domestic concerns over high unemployment and inflation may be a big problem for the current government under Mohammad Khatami, despite moderate reforms to liberalize Iran.

[80] Gill, Bates, "Chinese Arms Exports to Iran," *Middle East Journal of International Affairs*, Vol. 2, No. 2, May 1998.

Recently, high oil prices have eased the financial situation of Teheran. However, future oil prices will dictate the stability of the ruling party, and will ultimately influence the opinion of Iranians as they decide whether to call for a moderate government.

The PRC has an interest in keeping Iran's economy from cooling too rapidly and its growth rate at a moderate level. The PRC doesn't want Iran to become too economically successful so it doesn't need China, yet it doesn't want the country to fall apart, so China essentially becomes its sole support. Unlike Iran, China has achieved superior economic prosperity. For example, the PRC's manufacturing exports rose about 15 percent annually from the 1990s to 2000, where they were at $220 billion. The PRC's economy cooled in the late 1990s, affected by the Asian financial crisis, and growth was moderated to about 8 percent growth recently (see Figure 3).[81] China's membership in the World Trade Organization in 2001 has elevated its trade status and aided in the growth of its middle class. Even with this moderation in recent times, the Chinese economy has become a powerhouse in the world. China recently became the 5th largest economy in the world.

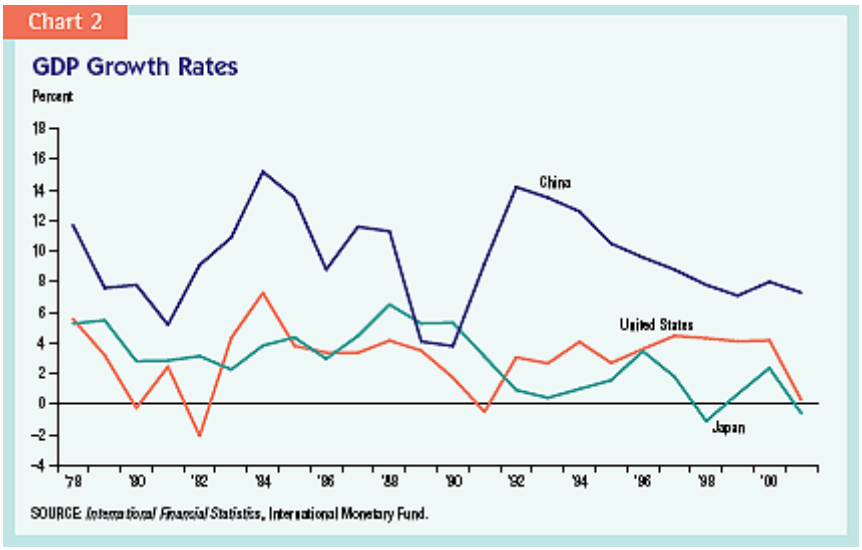

Figure 3. GDP Growth Rates from 1977-2002 (China, U.S, and Japan)

[81] See Figure 1, "GDP Growth Rates." From Hwww.dallasfed.org/research/swe/2003/swe0305a.htmlH Source: International Monetary Fund "International Financial Statistics" [Last accessed June 11, 2005]

China's biggest exports come from light industries, consumables, and manufacturing, all of which depend heavily on oil for manufacturing and transporting the goods. Oil consumption in developing countries is expected to rise by 3 percent annually until 2025, with one-third of the demand coming from China (see Figure 4).[82] China will increase its consumption from 5.5 million barrels per day (bbl/d) in 2003 to 12.8 million bbl/d by 2025. In 2003, China overtook Japan as the world's No. 2 consumer of oil, trailing only the United States. [83]

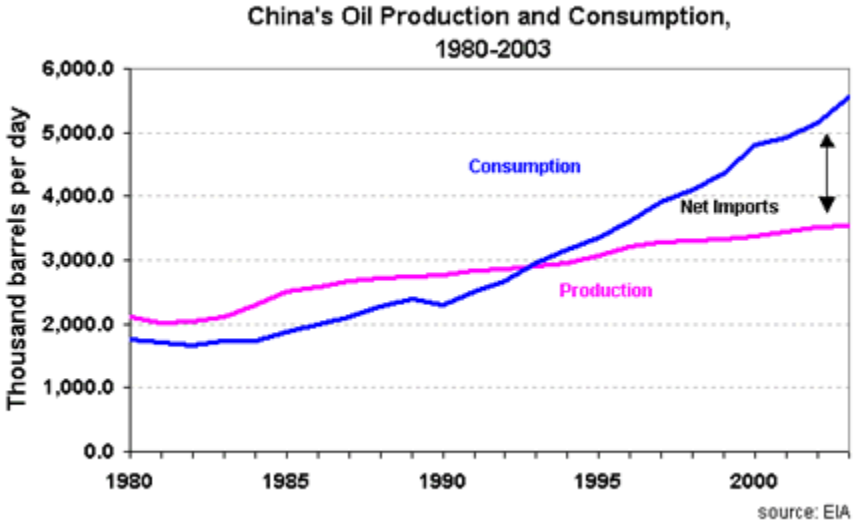

Figure 4. China's Oil Consumption and Production

Trade volume between Iran and China has increased dramatically since 1975. In 1975, Iran-China trade before the Islamic Revolution was insignificant, amounting to $3.4 million. The volume of Iran-China trade in 1998 is reported to have reached $1.215 billion, an increase of 17.7 percent compared with 1997. The respective annual figures amounted to $1.347 billion, $2.486 billion and $3.312 billion between 1999 and 2001.[84] Although not big compared to Japan and the United States, this indicates that the two countries are developing steady economic ties and growth.

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[82] See Figure 4, "China's Oil Consumption and Production." From Hhttp://www.eia.doe.gov/emeu/cabs/china.htmlH [Last accessed June 11, 2005]

[83] Energy Information Administration, "Country Analysis Brief, China," July 2004. From Hhttp://www.eia.doe.govH [Last accessed June 11, 2005]

[84] Rubin, Barry, "China's Middle East Strategy," *Middle East Review of International Affairs*, Vol. 3, No. 1, March 1999.

There are currently multiple business ventures between China and Iran involving petroleum. For instance, Teheran and Beijing initiated a $200 billion venture to develop and process liquefied natural gas (LNG) in Iran, with technical and financial help coming from China. The deal calls for 10 million tons of Iranian LNG for the next 25 years.[85] The PRC will also manufacture a variety of ships to transport goods and oil to Iran. Recently, Iranian tanker company Mohammad Souri sought to acquire 87 LNG-carrying vessels by 2010 from China's shipping industry. Iranian and Chinese business amounts to hundreds of billions of dollars in the oil-related sector alone, not counting arms deals and other goods.

Constructing a "pan-Asian continental hydrocarbon bridge" from the Caspian Sea through China as well as Japan and Korea is one of Beijing's strategic goals.[86] This is a joint project between Russia and China designed to supply 20 million to 30 million tons of oil to China each year. The oil pipeline would involve several countries in the Middle East and Central Asia, including Iran, to conduct intercontinental terrain transportation of oil from the Middle East (Iran) and Central Asia to the Far East. Under the terms of the contract, China will acquire the right to develop two oilfields (Aktuibinsk and Uzen) in exchange for its commitment to build a 3,000-kilometer pipeline from the oilfields to the Chinese region of Xinjiang, and a 250-kilometer pipeline to the border of Iran via Turkmenistan.[87] The benefits of this joint venture are lower development costs and ultimately a cheaper way to import oil into China.

Beijing wants this built for both economic and strategic reasons, as the pipeline will literally open another major oil artery other than the Straits of Malacca. If this land conduit is successfully constructed, China will have significant political and economic edges in influencing major importers of oil east of the Malacca Straits, including influence over Japan and Korea. Almost half the oil tankers going thought the straits now end up in the Far East.

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85 Afrasiabi, Kaveh, "China Rocks the Geopolitical Boat," *ATIMES*, November 28, 2004.

86 Blagov, Sergei, "Russia, China Eye on Pan-Asian Bridge," *Asia Times*, June 26, 2002.

87 Ibid.

Of course, investing in Iran's petroleum industry is not without great risk. The US's Iran-Libya Sanctions Act (ILSA) penalizes foreign companies that invest more than $20 million in the countries' oil industries.[88] Beijing faces a dilemma when approaching Teheran with such a venture. China needs future oil exports from Iran to sustain its domestic needs, but in doing so, it faces economic punishment from the United States for its actions. Beijing sees relations with Washington as a priority now since trade sanctions would cool China's economy.

This may not hold true in the future, however. Currently, China's oil imports comprise about 25 percent of consumption. This figure will likely double its current proportion by 2025. It is unlikely that Beijing will give in to Washington due to overwhelming domestic pressures.

3. Security

Iran and China share a common interest in keeping the United States' hegemonic influence from dominating the Gulf states. In June 2000, President Muhammad Khatami and his delegation visited China and spoke out against a "unipolar world" backed by global hegemony (referring to the United States).[89] One way to balance this problem is for Beijing to provide arms to Iran. Arms sales serve two purposes for Beijing: First, both countries share an interest in keeping the United States from becoming too strong in the region. Beijing views its arms sales to Iran as a critical element of its regional security. Second, commercial arms sales give China an opportunity to substantially decrease its costs of importing energy from the Middle East. Furthermore, these arms sales, including elements of sophisticated nuclear and other "dual-use" technology, give China an opportunity to gain a foothold in the region and build up a long-term strategic link to secure its growing energy interests. Arms sales from China to Iran have so far included an array of different weapons and technology, including conventional, nuclear, chemical and biological arms.

88 Afrasiabi, Kaveh, "China Rocks the Geopolitical Boat," *ATIMES*, November 28, 2004.

89 James, Bill A., "The Politics of Hegemony: The United States and Iran," *Middle East Policy Council*, Vol. VIII, September 2001.

Prior to the fall of Saddam Hussein's regime in Iraq, China sold arms to both Iran and Iraq for large profits and concessions-for-oil deals. The PRC provided thousands of tanks, trucks, armored personnel vehicles, artillery pieces, surface-to-air missiles, air-to-air missiles, more than a hundred fighter aircraft, and dozens of small warships. These types of arms gave the United States and the West reason for big concern since Iran was regarded as a rogue state that sponsored terrorism.

Aside from nuclear technology, the most worrisome weapons Iran has acquired from China are antiship cruise missiles. Iran purchased Chinese cruise missiles like the HY-2 "Silkworm," C801, and C802 missiles.[90] These weapons can be used to destabilize the Persian Gulf. The effectiveness of "Silkworm" missiles with 500-kilogram warheads is devastating to any ship. During the Iran-Iraq war, several oil tankers were hit by these deadly weapons. This weapon can not only be targeted at oil tankers, but Iran routinely targets U.S. naval forces in the area. A single disabled ship (commercial or military) in the Straits of Hormuz can virtually choke off the biggest artery for fuel, with devastating consequences worldwide.

Iran's nuclear technology is a major concern for United States. There have been several instances where China attempted to transfer nuclear technology to Iran. For example, in 1991 it was reported that China and Iran had struck a deal under which China would sell a research reactor (20-30 megawatts) to Iran to be located at the Isfahan site.[91] It was canceled in 1992. U.S. experts believe the reactor would have been able to produce up to 6 kilograms of plutonium per year.

Another attempt was made in February 1993, when China and Iran signed an agreement under which the PRC would provide Teheran with an HT-6B Tokamak nuclear reactor to be located at Azad University in Teheran.[92] In 1994, Chinese technical teams made two trips to Teheran to install, test, and fine-tune the reactor. In February 1995, Iran informed Beijing that the reactor had successfully produced a 20-millisecond

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90 Gill, Bates, "Chinese Arms Exports to Iran," *Middle East Journal of International Affairs.* Vol. 2, No. 2, May 1998.

91 Hibbs, Mark, "Sensitive Iran Reactor Deal May Hinge on MFN for China," *Nucleonics Week*, October 1, 1992. pp. 5-6.

92 "Transfer of Nuclear Device to Iran Cited," FBIS-CHI-95-078, April 21, 1995 (Zhongguo Tongxun She (Hong Kong), April 21, 1995).

electromagnetic discharge.[93] This is significant, since a similar situation took place between the USSR and the PRC in the 1950s in which a research reactor was transferred, and the PRC developed its own nuclear weapons just a few years later.

The transfer of high technology and nuclear-related programs has been under the United States' microscope, and some Chinese companies have been sanctioned or boycotted. For example, in May 2003, North China Industries Corporation (NORINCO) was barred all exports to U.S. government agencies for allegedly supplying missile technology to Iran. This was a big loss for China, considering that NORINCO exported $100 million in products to the United States.[94] There were more sanctions in July 2003 and April 2004 against Chinese companies involved in these types of contracts with Iran. Washington has shown there is little room for tolerance when nuclear and missile technologies are sold to Iran.

The PRC has used diplomacy and propaganda to provide taboo technology to Iran to strengthen its strategic foothold, while trying to avoid condemnation by the world community. PRC Ambassador Zhang Yan addressed the Iranian nuclear issue in August 2004.[95] In his official comments, he praised Teheran for taking steps to comply with International Atomic Energy Agency (IAEA) guidelines. Ambassador Yan also spoke about the legitimate right for countries like Iran to use nuclear energy for peaceful means. This suggests that the PRC's foreign policy is likely to stay mainstream on nuclear issues while leaving room to provide nuclear technology and assistance to Iran.

Teheran's desire to acquire nuclear technology from Beijing seems logical, given that the country is virtually surrounded by nuclear weapons among its neighbors, including Russia, China, Israel, India, and Pakistan. However, Beijing must be very careful in this juggling act since it faces backlash and sanctions from the West, on which China heavily relies for exports. This could be especially true for relations with the United States. If Beijing continues to upset Washington over the Iranian nuclear issue,

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[93] Gill, Bates. "Chinese Arms Exports to Iran," *Middle East Journal of International Affairs.* Vol. 2, No. 2, May 1998.

[94] "Iran's Uranium Programs," Iran Brief, June 1, 1995. p. 11.

[95] Embassy of the People's Republic of China in the Islamic Republic of Iran, "Statements by Chinese Ambassador Zhang Yan on the Iranian Nuclear Issue." From http://Hwww.chinaembassy.irH [Last accessed June 11, 2005]

the country could face political and economic setbacks that would inevitably upset its economy and domestic needs. For example, high-tech and aviation technology in demand by China could be threatened. China does not want another case of U.S. intervention in the Middle East region. The PRC witnessed U.S. willingness to intervene militarily in Iraq and Afghanistan. Beijing wants stability while weakening the position of the United States in the Middle East.

4. Strategies

Beijing needs Teheran's cooperation for its own strategic interests. In 1970, there were no private vehicles in China. Today there are ten million private vehicles in China, and of those, two million are in Beijing. Conservative estimates project there will be 120 million private vehicles by 2025.[96] This number would represent ownership by less than ten percent of China's population. The number of vehicles would be staggering if China were to emulate auto-to-population ratios in the United States. Current technology and limited alternatives to fossil fuel give China little choice but to import oil. Furthering the PRC's need for oil imports is the country's situation with its own reserves. Current known reserves in Xinjiang suffer from geographic and technical challenges to extract them. Offshore drilling is expensive, costing around $9-$23 per barrel. At the 1999 price of $40 per barrel, the cost of extraction was too high level, according to some oil experts.[97]

The best strategy to secure oil for China is to secure allies in the Middle East and Central Asia. Expanding China's global network of oil trade and oil development bases both geographically and politically will help excessive reliance on one source — allowing China to avoid putting all its eggs in the same basket. The pipeline China is trying to build is another way the country is trying to meet its increasing oil needs. This would allow for better oil access from both Iran and Central Asia. If the pipelines are successfully built, all countries involved can enjoy their benefits.

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96 Wingfield-Hayes, Rupert, "China's Thirst for Oil Gets Top Gear," *BBC News*, October 1, 2004.

97 Rubin, Barry, "China's Middle East Strategy," *Middle East Review of International Affairs*, Vol. 3, No. 1, March 1999.

China and Iran use official meetings to promote and advance their foreign policy goals. There have been many meetings and discussions working toward developing Iranian oil industries. In one meeting, Energy Minister of Iran Zanganeh underlined opportunities for greater cooperation between the two countries, expressing hope that Teheran and Beijing can strengthen their mutual cooperation in oil, gas and petrochemical fields.[98] Iran and China signed a memorandum of understanding awarding the project to develop Yadavaran oil field to China's Sinopec. Also, the NIOC has agreed to sell as much as 150,000 barrels per day of crude oil to China over a period of 25 years once Yadavaran is in full swing.[99]

China's prospects for acquiring stable relations with both the United States and Iran are very good. As the world becomes more globalized in the future, the United States may not possess the same great influence on trade it now holds. Currently, the United States can prevent goods from being traded with China with minor consequence. However, as the Chinese economy evolves and becomes intertwined with U.S. industry, Washington will not able to use sanctions and other economic hammers to punish China. For now, China has to walk a fine line in order not to throw off its relationship with Washington.

B. ISRAEL AND XIANJING

There are two additional major variables that may negatively effect the PRC's foreign relations in the Middle East. First, Beijing's ties with Israel may lead other Middle Eastern countries to distrust the PRC. Historically, the PRC publicly supported the Palestinian Liberation Organization and officially recognized the government. However, diplomatic relations shifted to warming ties with Israel after the Madrid Conference in 1991. There have been numerous transactions between Beijing and Tel Aviv involving weapons and technology. Also, the PRC was reminded of the limits on its ties to Israel when the sale of the Phalanx missile system to the PRC was canceled due to pressure from Washington in 2000.[100]

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98 "Iranian Oil Minister and Chinese FM Discuss Expansion of Bilateral Ties." *Payvand's Iran News*, October 28, 2004. From http://Hwww.payvand.comH [Last accessed June 11, 2005]

99 "Iranian Oil Minister and Chinese FM Discuss Expansion of Bilateral Ties." *Payvand's Iran News*, October 28, 2004. From http://Hwww.payvand.comH [Last accessed June 11, 2005]

100 Perlez, J., "Israel Drops Plan to Sell Air Radar to China Military," *New York Times*, July 13, 2000.

Second is China's treatment of its Muslim population. The PRC's Xinjiang region has been plagued for many years by Muslim independence movements, and Beijing has cracked down harshly with open executions and political imprisonment of many Muslim minorities under a slogan of "the war on terror." China has the highest reported rate of execution, with 1,067 executed in 1998,[101] many of whom undoubtedly were in Xinjiang. Ruthless oppression of Muslim minorities will be a thorn between the PRC and the Middle East in the years to come.

C. CONCLUSION

Teheran holds the key to the PRC's pursuit of its strategic and economic interests in the Middle East. Although the PRC has no antagonistic relations and enjoys good terms with most Middle East nations, it is constrained by American political and military influence in the region. Beijing needs Teheran's blessings and cooperation to achieve its future domestic goals. It has an interest in economic, security, and strategic ties to keep Teheran close. Oil will be the biggest interest, along with growing trade (including arms), to play an important role in determining future policy. At the same time, Beijing must avoid a backlash from the West — particularly the United States. Beijing values Washington's blessing because it has a tremendous market in the United States it cannot afford to lose. The overall approach of the PRC's relationship and policy toward Iran will improve as China improves its position in world trade. Aside from a few challenging issues, such as Israel and Xinjiang, Beijing will certainly utilize Teheran as a "silk road" to the Persian Gulf.

101 Amnesty International. From Hhttp://www.nationmaster.com/graph-T/cri_exeH [Last accessed June 11, 2005]

VI. CONCLUSION

The People's Republic of China (PRC) and the United States seek stability in the Middle East, which is mutually beneficial. A war in the region could restrict the flow of oil, which in turn could affect the world economy, thereby hurting both the United States and the People's Republic of China. The People's Liberation Army Navy's (PLAN's) naval modernization is impressive, but it faces many difficult challenges ahead. The United States Navy's Fifth Fleet in Bahrain is acting as a stabilizing force in the Persian Gulf, allowing safe transit of ships and freedom of navigation. The PLAN will not have the capabilities or desire to contend with the United States Navy in this arena by 2025.

A. SUMMARY OF FINDINGS

The PLA's strategic shift has come as the threat of invasion near China's border has been minimized. Once a large and antiquated defensive-natured land military, the PLA is now trying to transform itself into a technically sophisticated, forward-looking military that includes a strong naval force.

A successful Japanese naval modernization in the late 19th century proves that China, too, could quickly modernize and possess a blue water navy. Evidence suggests, however, that PLAN's modernization has been much less successful, and it will not have a navy capable of challenging the United States Navy in the Persian Gulf by 2025. The modernization of the PLA is complicated by a heavy reliance on foreign imports and the lack of China's own industrial base for modern weaponry. Instead, the PLAN will focus its attention close to China's shores — namely Taiwan and the South China Sea, where it has the capability to successfully challenge weaker neighbors.

Iran will be the key to China's entry into the Persian Gulf. The United States dominates the Middle East and the Persian Gulf politically and militarily, with the only exception being Iran. China and Iran have formed a relationship that counters the U.S. hegemony in the region. Despite U.S. displeasure, China will continue to provide arms to Iran in exchange for oil.

There are repercussions for Beijing's forming strong relations with Teheran. First, nuclear proliferation in Iran is seen as a destabilizing factor in the Middle East by most of the world, which may weaken China's political influence and prestige. Israel, from which China imports arms, may be reluctant to provide high-tech weapons that could end up in Iran via China. Relations with Israel and the mistreatment of China's Muslim population are debilitating factors in the Sino-Arab relationship.

B. POLICY RECOMMENDATION

The U.S. and Chinese demands for oil from the Persian Gulf may become a source of cooperation between the two nations. Both countries desire readily accessible oil at low prices. Instability in the Middle East — especially near the Persian Gulf — will surely drive up oil prices and curtail oil supplies. High oil prices will not only hurt the Chinese and American economies, but affect economies worldwide.

According to China expert Dr. Bernard Cole, control of China's adjacent seas out to the first island chain (green water) is reasonable and attainable within the next 20 years, with the caveats that Beijing change its national prioritization of resources and the United States and Japan allow it to occur.[102] This evidence that suggests no blue water navy in the next two decades, in addition to the economic strife that would follow from instability in the Persian Gulf, suggests that the PLAN will not likely contest the United States Navy in the Persian Gulf by 2025. Nevertheless, China would use force against the United States if it believes the benefits would outweigh the consequences.

China is not afraid of using military force to resolve matters that involve territorial issues, as it has demonstrated against the Soviet Union, India, and Vietnam in the 1960s through the 1970s when border issues arose. There also have been dozens of clashes involving the PLAN and its neighbors in the South China Sea.

The past has taught us China's reaction to such military aggravation. For example, during the Korean War, Washington underestimated Beijing's willingness and capabilities to attack U.S. and U.N. troops despite the possibility of retaliatory nuclear

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102 Cole, Bernard C., *The Great Wall at Sea: China's Navy Enters Twenty-First Century*, (Naval Institute Press, 2001), p.175.

attacks. Knowing this, accurate communication will prove key to avoiding a U.S.-China clash. Miscommunication must be avoided in the future, as lessons learned from the past show.

The United States and China have had differences which could have proved catastrophic. The following issues have caused mistrust between the two nations, and yet they have managed to avoid crisis: the Tiananmen Square massacre in 1989, the Taiwan Strait missile crisis in 1995-1996, and the Chinese Embassy (Belgrade) bombing in 1999. While these incidents did not provoke military responses on the part of the United States, they will inevitably play a role in future relations.

Beijing has also displayed an increasing willingness to confront the United States. with its military at times. In 2001, a PLAN Jianghu III class frigate aimed its gun fire-control radar at a U.S. surveillance ship in international waters in the Yellow Sea, and it closed within 100 yards. A week later, an overly-aggressive Chinese F-8 fighter jet collided with a U.S. EP-3 surveillance aircraft, which led to an emergency landing in Hainan Island. Twenty-four U.S. crew members were detained for a short time by China.[103] Luckily, these volatile events were successfully brought under control with careful diplomacy and dialogue.

Despite the challenges, China and the United States can grow as competitors but do not have to embark on a collision course, according to Professor David Lampton. He recommends the following policies for Beijing and Washington: First, Washington should allow room for China's growth (with G-8 as a starting point). Second, Beijing must reassure others countries that its use of power will be respectful of their interests.[104] Lampton's recommendations are sound. Despite misgivings about China's growing influence in world politics that may indicate a loss in Washington's influence, there is no question China will take on greater international role.

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103 Gertz, Bill. "U.S. Spy Plane Lands in China After Collision," *The Washington Times*, April 2, 2001.

104 Lampton, David M., "The United States and China: Competitors, Partners, or Both?" paper delivered at U.S. Foreign Policy Colloquium, George Washington University, June 4, 2004.

C. FINAL THOUGHTS

The potential economic impact China could have on world trade is monumental, and increasing geopolitical influence will follow. Washington may not be thrilled about Beijing's growing influence in the Middle East, but it will need to think about taking a greater role in Beijing's spheres of influence. Iran will continue to be a hurdle for Washington. Iran will use China as the counterbalance against the United States. Other Gulf states that have friendly relations with Washington will likely form a closer relationship with Beijing as China's economic and political prestige blossom. The PLA and its supporting branches have made great progress — creating pockets of excellence — but they are still decades behind the U.S. military. The United States must keep pace with its modernization and transformation in order to keep ahead of China. The degree of influence that China has in the Persian Gulf, and limiting the PRC's sphere, will be Washington's primary agenda in the next few decades

APPENDIX A. MARITIME STRATEGY – ECONOMIC, LEGAL, AND TECHNOLOGICAL CONCEPTS

PERIOD	MAJOR NAVAL POWERS	ECONOMIC	LEGAL	TECHNOLOGICAL
1400-1650	Spain, Portugal, Netherlands, Great Britain, France	Early mercantilism based upon colonies of settlement and trading outposts; bilateral international trade limited to specie and high-value commodities	Extensive, unrealizable claims of sovereignty over the world's oceans	Square-rigged wooden sailing ships; smooth-bore cannon; navigation by compass; dead reckoning, and celestial mechanics
1650-1815	Spain, Netherlands, France, Great Britain	Mature mercantilism; rapid expansion in scale and variety of overseas trade; intra-colonial and "triangular" trading patterns; chartered trading companies give way to private enterprise; first "decolonization"; modern central banks	*Mare liberum*; prize rules; territorial sea; "Old Rule" of neutral rights; "letters of marque"; slave trade abolished	Normalized "line of battle" ships; comprehensive signaling systems; true reckoning of longitude; overseas basing; long-distance trade in naval stores; "carronades"
1815-1914	Great Britain, France, Germany, Italy, Japan, Russia, United States	Early capitalism / "free trade" liberalism; mass overseas migration of Europeans to "Neo-Europes"; networked transoceanic trade in non-luxury goods; industrial revolution; imperial expansion in Africa and East Asia	"New Rule" of neutral rights; privateering and prize system abolished; contraband regulation attempted; early regime of straits and narrow waters	"Steam-and-steel" warships; naval mines and torpedoes; coal and oil-fired power plants heighten requirements for overseas bases
1914-1945	Great Britain, United States, Germany, Japan, Italy, France	Wartime autarky brings first age of globalization to an end; imperial preference fails; imperial "overstretch" apparent	Naval disarmament; neutral rights embedded in collective security system; "distant" blockade; maritime exclusion zones	Gun-firing warships displaced by aircraft carriers and "submersible" submarines
1945-	United States, Great Britain, Soviet Union	Resurgent, globalizing capitalism; second "decolonization"	Comprehensive legal regime governing navigation, economic rights, and environmental protection of worlds oceans	True submarines; nuclear propulsion and weaponry; ballistic and cruise missiles: "sea basing"

Maritime Strategy - Economic, Legal, and Technological Contexts

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APPENDIX B. PRC'S DOMESTIC DEFENSE INITIATIVE

- Co-production of Su-27 fighters in China
- Airborne warning and control system (AWACS) aircraft
- Luyang class destroyers
- Type-054 frigates
- Song class diesel-electric submarines
- Yuan class diesel electric submarines
- Type-093 nuclear powered attack submarines
- Satellite and space launch vehicles

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APPENDIX C. ACQUISITIONS AND NEW WEAPONS PURCHASES FROM RUSSIA SINCE 1990

- 402 Russian Su-27 & Su-30fighters
- 12 Russian Kilo class diesel-electric submarine
- 4 Russian Sovremenny class destroyers
- Russian SA-10 and SA-15 air defense missile systems

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APPENDIX D. TAIWAN STRAIT AREA

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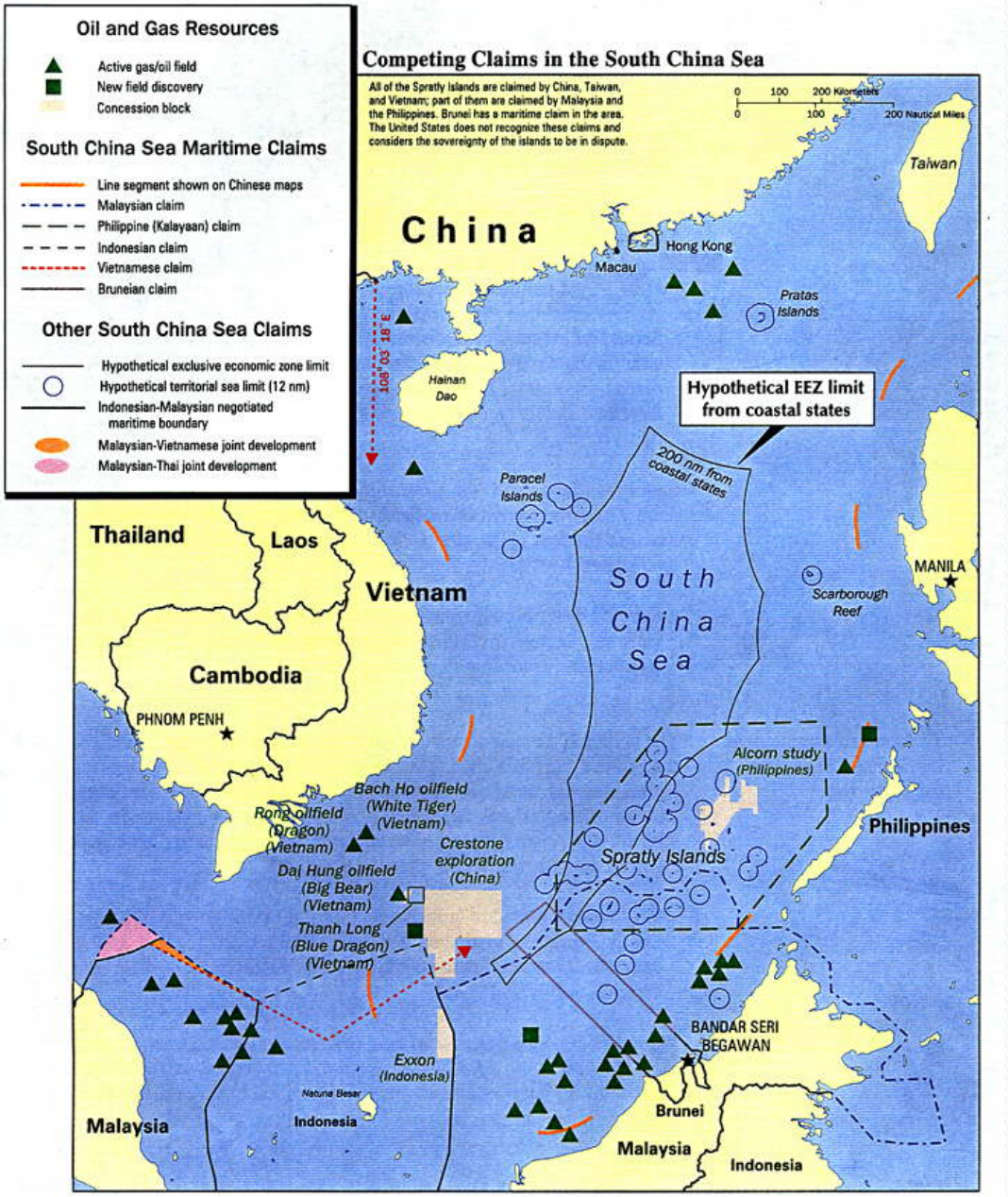
APPENDIX E. OIL AND GAS RESOURCES IN SOUTH CHINA SEA



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APPENDIX F. SOUTH CHINA SEA TABLES AND MAPS - TERRITORIAL CLAIMS IN THE SPRATLY AND PARACEL ISLANDS

Country	Claim
Brunei	Does not occupy any of the islands but claims part of the South China Sea nearest to it as part of its continental shelf and Exclusive Economic Zone (EEZ). The boundary lines are drawn perpendicularly from two outermost points on the Brunei coastline. In 1984, Brunei declared an EEZ that includes Louisa Reef.
China	Refers to the Spratly Islands as the Nansha islands and claims all of the islands and most of the South China Sea for historical reasons. These claims are not marked by coordinates or otherwise clearly defined. China also claims the Paracel Islands (referred to as the Xisha Islands) and includes them as part of its Hainan Island province. Chinese claims are based on a number of historical events, including the naval expeditions to the Spratly Islands by the Han Dynasty in 110 AD and the Ming Dynasty from 1403-1433 AD. Chinese fishermen and merchants have worked the region over time, and China is using archaeological evidence to bolster its claims of sovereignty. In the 19th and early 20th centuries, China asserted claims to the Spratly and Paracel islands. During World War II, the islands were claimed by the Japanese. In 1947, China produced a map with nine undefined dotted lines, and claimed all of the islands within those lines. A 1992 Chinese law restated its claims in the region. China has occupied eight of those islands to enforce its claims. In 1974, China seized the Paracel Islands from Vietnam.
Indonesia	Not a claimant to any of the Spratly Islands. However, Chinese and Taiwanese claims in the South China Sea may extend into Indonesia's EEZ and continental shelf, including Indonesia's Natuna gas field.
Malaysia	Its Spratly claims are based upon the continental shelf principle and have clearly defined coordinates. Malaysia has occupied three islands that it considers to be within its continental shelf. Malaysia has tried to build up one atoll by bringing soil from the mainland and has built a hotel.
Philippines	Its Spratly claims have clearly defined coordinates, based both upon the proximity principle as well as on the explorations of a Philippine explorer in 1956. In 1971, the Philippines officially claimed eight islands that it refers to as the Kalayaan, partly on the basis of this exploration, arguing that the islands: 1) were not part of the Spratly Islands and 2) had not belonged to anyone and were open to being claimed. In 1972, they were designated as part of Palawan Province and have been occupied.

Taiwan	Taiwan's claims are similar to those of China and are based upon the same principles. As with China, Taiwan's claims are also not clearly defined. Taiwan occupies Pratas Island in the Spratlys.
Vietnam	Vietnamese claims are based on history and the continental shelf principle. Vietnam claims the entire Spratly Islands (Truong Sa in Vietnamese) as an offshore district of the province of Khanh Hoa. Vietnamese claims also cover an extensive area of the South China Sea, although they are not clearly defined. In addition, Vietnam claims the Paracel Islands (the Hoang Sa in Vietnamese), although they were seized by the Chinese in 1974. The Vietnamese have followed the Chinese example of using archaeological evidence to bolster sovereignty claims. In the 1930s, France claimed the Spratly and Paracel islands on behalf of its then-colony Vietnam. Vietnam has since occupied 20 of the Spratly Islands to enforce its claims.

EEZ = Exclusive Economic Zone

** The South China Sea is defined by the International Hydrographic Bureau as the body of water stretching in a southwest to northeast direction, the southern border of which is 3 degrees South latitude between South Sumatra and Kalimantan (Karimata Straits), and the northern border of which is the Strait of Taiwan from the northern tip of Taiwan to the Fujian coast of China.*

APPENDIX G. MILITARY CLASHES IN THE SOUTH CHINA SEA FROM 1974 TO 1999

Date	Countries	Military Action
1974	China vs. Vietnam	Chinese seized the Paracel Islands from Vietnam, with 18 of its troops killed in clashes on one of the islands.
1988	China vs. Vietnam	Chinese and Vietnamese navies clashed at Johnson Reef in the Spratly Islands. Several Vietnamese boats were sunk and over 70 sailors killed.
1992	China vs. Vietnam	Vietnam accused China of landing troops on Da Luc Reef. China seized almost 20 Vietnamese cargo ships transporting goods from Hong Kong from June - September.
1994	China vs. Vietnam	China and Vietnam had naval confrontations within Vietnam's internationally recognized territorial waters over Vietnam's Tu Chinh oil exploration blocks 133, 134, and 135. Chinese claim the area as part of their Wan' Bei-21 (WAB-21) block.
1995	China vs. Philippines	China occupied Philippine-claimed Mischief Reef. Philippine military evicted the Chinese in March and destroyed Chinese markers.
1995	Taiwan vs. Vietnam	Taiwanese artillery fired on a Vietnamese supply ship.
1996	China vs. Philippines	In January, Chinese vessels engaged in a 90-minute gun battle with a Philippine navy gunboat near Capones Island.
1997	China vs. Philippines	The Philippine navy ordered a Chinese speedboat and two fishing boats to leave Scarborough Shoal in April; the Philippine navy later removed Chinese markers and raised its flag. China sent three warships to survey Philippine-occupied Panata and Kota Islands.
1998	Philippines vs. Vietnam	In January, Vietnamese soldiers fired on a Philippine fishing boat near Tennent (Pigeon) Reef.
1999	China vs. Philippines	In May, a Chinese fishing boat was sunk in a collision with a Philippine warship. In July, another Chinese fishing boat was sunk in a collision with a Philippine warship.
1999	China vs. Philippines	In May, Chinese warships were accused of harassing a Philippine navy vessel after it ran aground near the Spratly Islands.
1999	Philippines vs. Vietnam	In October, Vietnamese troops fired upon a Philippine air force plane on reconnaissance in the Spratly Islands.
1999	Malaysia vs. Philippines	In October, Philippine defense sources reported that two Malaysian fighter planes and two Philippine air force surveillance planes nearly engaged over a Malaysian-occupied reef in the Spratly Islands. The Malaysian Defense Ministry stated it was not a standoff.

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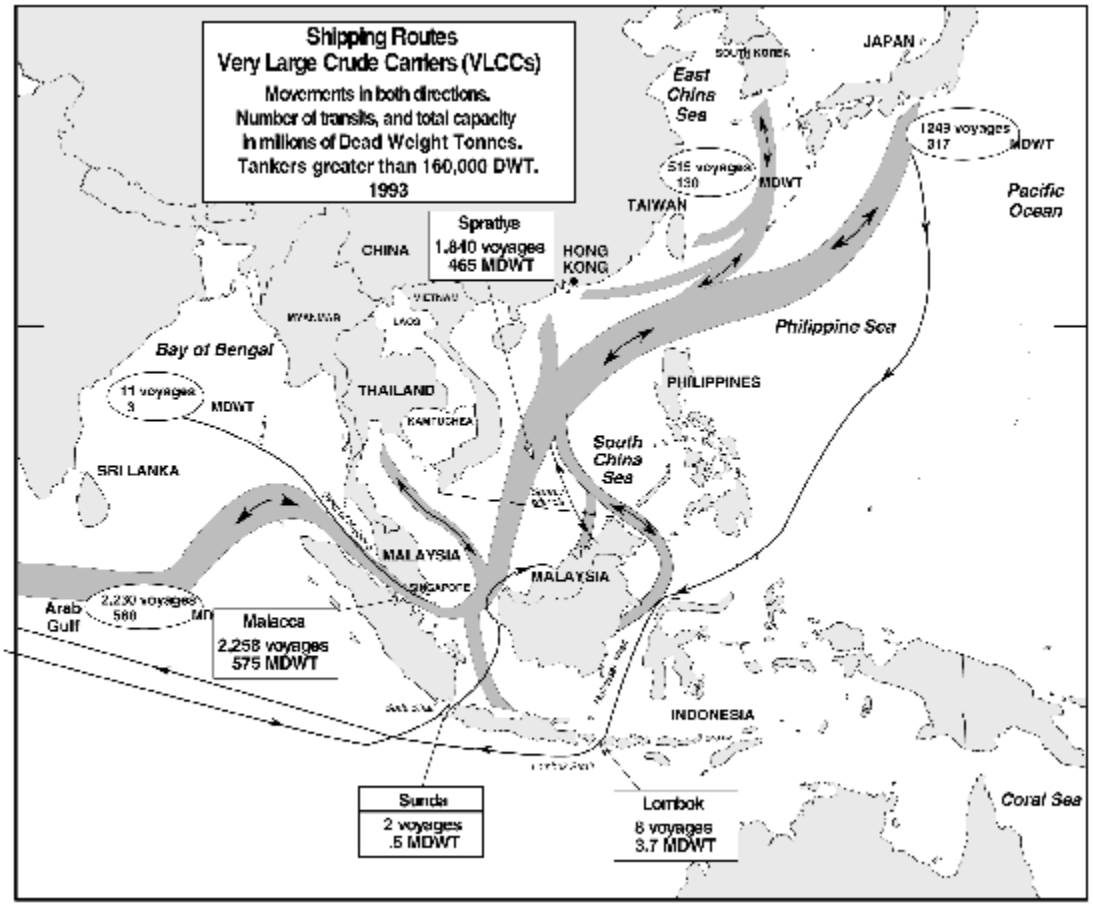
APPENDIX H. SUPERTANKER MOVEMENTS



Source: Center for Naval Analyses and the Institute for National Strategic Studies

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APPENDIX I. MAP OF THE PERSIAN GULF

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